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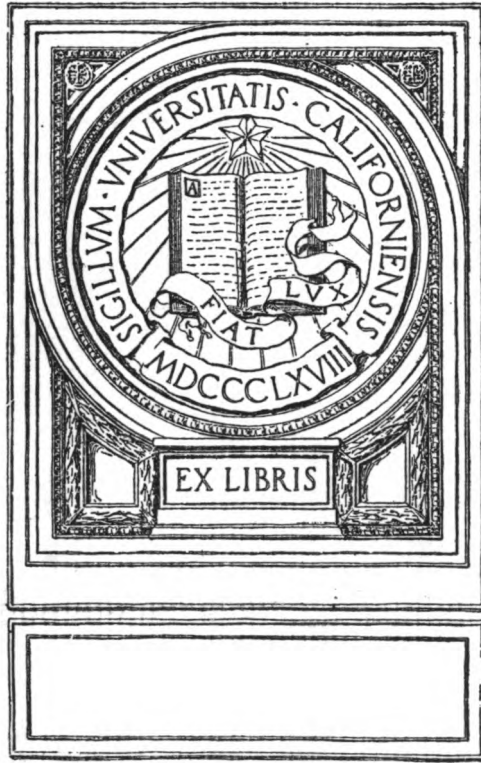
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Graphite

VOL. XXVI

JANUARY-FEBRUARY, 1924

NO. 1



JOSEPH DIXON CRUCIBLE CO.

ESTABLISHED
1827

JERSEY CITY, N. J., U. S. A.

INCORPORATED
1868



*Miners, Importers and Manufacturers of
Graphite, Plumbago, Black Lead*



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Santiago, Chile

Canadian Agents

CANADIAN ASBESTOS Co.,
Montreal, Quebec

Graphite

A MAGAZINE PUBLISHED BY THE
JOSEPH DIXON CRUCIBLE COMPANY

AT JERSEY CITY, N. J.
U. S. A.

Volume XXVI

JANUARY-FEBRUARY, 1924

Number 1

The Surprise: May 10, 1776

GREEN Mountain Boys
Snapping a brand new flag
An Eagle overhead
Screaming from a mountain
crag!

Old TI-CON-DER-OGA,
Be on your guard!
Ethan Allen's coming,
And he'll hit hard.

When the night is dark
And it's hard to tell
One hand from t'other
Then it's well
To keep wide awake
And bar all gates
While men are marching
For their country's sake.

What do you make of it,
On your sentry-go?
Is it the mists
That puzzle you so?

Hark!—a noise
On the still night air.
Time for the challenge:
"Who goes there?"

The answer seems a thunder-
bolt
From the dark sky,
And falls the sentry
Very still to lie.

Up on the balcony,
Pounding at the door,
Stands Ethan Allen.
Hear him roar!

"Come out and surrender
"I've got ye fast!
"The Continental Congress
"Is shooting at last."

"And the Great Jehovah
"Smileth on high,
"As we smite our enemies,
"Hip and thigh."

Pencil Illustrations in Advertisements

HAVE you not seen these of late in the great weekly and monthly magazines? Sometimes, an object of little general interest—a hinge, for example—is made to take on an appealing delicacy of shape and tone through the work of an artist with a pencil. Now, it is a face that looks out at you from the ad, so clearly modeled and so human that your friendly attention is engaged and drawn to a perusal of the ad. Again, the illustration is of a street in an old town with the sunlight falling on it; you see the rich shadows, the touches of age, the sharply drawn old windows, casements, doorways. Or it is some modern beauty, like the Woolworth building, towering high into the sky, its wonderful detail elegantly and impressively delineated. Again, it is a lively little sketch of a group in action. No object is too high or low in human estimation but a lead pencil drawing by an artist will give it a fresh and vital life in art. There is a quiet sincerity in all such work which reaches out to the advertisement itself, lending it a certain honesty. For the artist who uses a lead pencil must know how to draw. All the great modern teachers—from Ruskin on—emphasize its value as a medium for a skilful draftsman. And artists have used it—for finished drawings and for sketches—so long and to such an extent that its universality as a medium of artistic expression is a commonplace. Its convenience and its low cost have helped to make it popular. But its greatest recommendation is its suitability for any kind of drawing, from the roughest outline or sketch to the finished

rendering of an elaborate or complicated subject.

And yet specialists in lead pencil work are only too few—or have been until very lately. That a new importance is coming to the lead pencil drawing is evident, however. Modern methods of reproduction are in a great degree responsible for this. The high-light half-tone insures a gradation of light and shadow which mark the lead pencil drawing at its best. On coated stock, or on Cameo or similar paper, the reproduction by this half-tone of a pencil drawing is about all the heart could desire. The peculiar “style” is there: the range of gradations, the boldness, the elegance, the delicacy, the fairy-like charm of this little instrument of art-expression.

To know lead pencil drawing is to love it. Not many books have been written about it. “Sketching and Rendering in Pencil” by Arthur L. Guptil (the “Pencil Points” Press) is one of them. If you would look at a great range of subjects, and read a masterly treatment, that is the book for you. Another good book is “The Art of Drawing in Lead Pencil,” by Jasper Salway (Scribner’s).

One of the admitted masters among American pencil artists is Earl Horter. The back cover of this issue of GRAPHITE contains a reproduction of his drawing (with Dixon’s ELDORADO) “Ancient Greece.” His work ranks very high and his style is all his own. We have a little portfolio of reproductions of his ELDORADO pencil drawings, printed for artists, draftsmen and architects who are inter-

(Continued on page 14)



Mr. Ernest Beyer's New Store at Atlantic City, N. J.

THIS old-time Dixon customer now occupies a new establishment at 1515 Pacific Avenue, Atlantic City, N. J. The store occupies the ground floor and mezzanine gallery of a recently constructed steel and concrete 5-story building. The exterior of the building is of Gothic design with a touch of Renaissance. Its interior is finished in gray oak. The lighting fixtures are very modern and effective. They are worked out in extensive detail and so designed as to illuminate clearly articles in the store and in the window.

On the lower floor every essential in the line of stationery is shown.

The front of the mezzanine floor is taken up by an attractive stock of office furniture, desks, metal filing cases, typewriters and adding machines. The rear of the mezzanine is taken up by the Accounting Department and the executive head-

quarters of the store. The Printing Department is also situated there.

Reserve stock is piled on steel shelving of the latest type, kept in a waterproof basement.

The building is so impressive in character and the store itself so striking that since the opening many out-of-town business men, visitors in Atlantic City, who have been attracted by it and have looked in, have pronounced it one of the finest equipped of its kind in the East.

GRAPHITE is very well pleased indeed to print this story of Mr. Beyer's new store. Mr. Beyer has always impressed us as an aggressive, up-to-date merchandiser alive to every demand and opportunity in his field. His new store will multiply the ability of himself and his organization to render service to his customers. He is to be congratulated on his enterprise and felicitated on his success.



Brainerd Office Supply Company

Feature Dixon Crayon Pencils in Advertisement

RECENTLY we were much gratified to receive from the Brainerd Office Supply Company, of Brainerd, Minn., a clipping of their newspaper advertisement of a *Coloring Contest* for school children:

"To introduce the new Dixon Colored Crayons."

To tell the story in complete detail, we give, as follows, the newspaper account of the contest:

MANY EMBRYO ARTISTS School Children Enter Coloring Contest of Office Supply Company and New Bakery

"We believe in awakening the dormant artistic ability in the youth of today," said Carl W. Anderson of the Brainerd Office Supply Co., who, with the cooperation of the Elektrik-Maid Bakery is putting on a

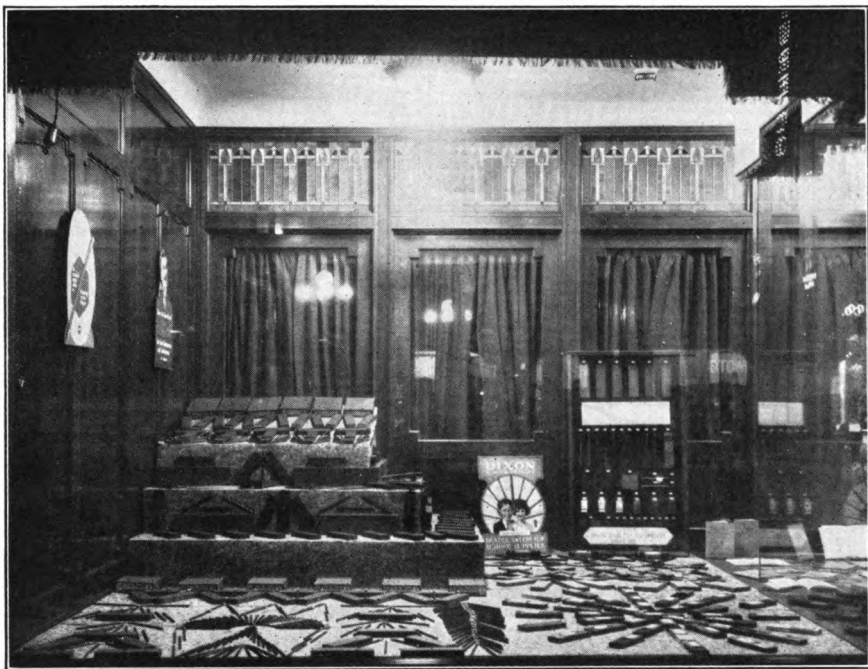
school children's coloring contest.

All school children in the city are eligible to compete for the prizes that are to be given. All that is necessary is to color the picture of the young lady appearing in the bakery advertisement which is running in the Dispatch.

The possibilities are unlimited, stated Mr. Anderson, who has samples of coloring done in other cities. This work is truly artistic, and should offer plenty of inspiration and suggestions to the contestants.

The rules governing the contestants are very simple. At least three colors must be used, and the work is to be done with Dixon crayons. All contestants must submit their pictures to the Elektrik-Maid Bak-

(Continued on page 7)



An Unusual Window H. S. Crocker Company Los Angeles

NOTICE we did not say, Los Angeles, Cal. That would certainly be an exquisite example of superfluity. There is only one Los Angeles. That everyone knows.

We speak from hearsay. But visitors to that city return to the East so full of its excellences and so full of the praises of its citizens, that we should say what would be looked on as unusual elsewhere, would there be regarded as the usual.

So we are a bit timid when we say of this window that it is unusual. It is to us. The mass in the far corner of the display, the position of the large framed Industrial Exhibit, the grouping of cartons and packages—even the arrangement of

single pencils—contribute to this effect.

A splendid display which pleases us as it must have attracted and impressed everyone who saw it.

Brainerd Office Supply Co.

(Continued from Page 6)

ery not later than Saturday evening, October 13th, at 9 o'clock.

It is Mr. Anderson's plan to carry on similar contests throughout the fall and winter, with other business concerns in the city who care to co-operate in this movement.

It is hoped that there will be a large number of school children participate in this contest, for as quoted by the manager of the Brainerd Office Supply Co., "The kid of today may be the comic artist of tomorrow or become a second Gibson, if given the proper incentives now."

New **DIXON** Pencils and Penholders



No. 808, "RAINPROOF" PENCIL, black finish, with carbon black lead. This new pencil was designed especially for addressing and numbering tags, labels, packages or bundles. It makes an intensely black mark that will withstand water or grease, and that does not smear, run or fade.

New Penholders



No. 3020, cork grip, red and black finishes.

No. 3023, all wood, wood center, red, yellow and green finishes, assorted.

No. 3024, all wood, wood center, black finish.

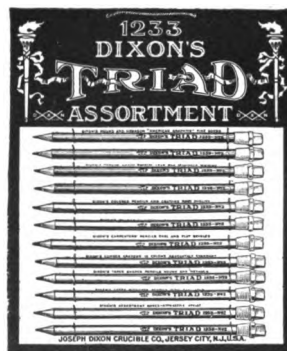
No. 3025, all wood, tapered, metal core, black finish, 1 dozen to box, 6 boxes to carton.



No. 3040, "MODERN WRITING," flanged, green finish, 1 gross to box.



No. 1246, "LANDSCAPE" EASEL ASSORTMENT, containing one-half gross of assorted fancy finish round shape Dixon "Cabinet" quality pencils.



No. 1233, "TRIAD" PENCILS, assorted finishes, with assorted colors of "Wedge" Erasers, 1 dozen to card, 6 cards to carton.

Sermons for Salesmen

To Stationery Salesmen:—On Selling More Lead Pencils

A PICTURE is rated by experts to be as good as a million words. Granting this, I wonder how many words the actual object itself is worth in a demonstration? It depends on the article, of course. Such an article as a lead pencil at its best, fresh, newly minted, as it were, is as attractive to people (almost) as a newly coined gold piece or a new dollar bill. After a time, all three show the effects of much handling. Hence, I think if I were a salesman desirous of improving my sales of lead pencils, I should first see to it that I had good samples of lead pencils to show at all times and that these samples were properly protected and displayed in a flap or roll, itself clean and good to look upon. What a little thing, what an obvious thing it seems to be; how trite to speak so of samples. And yet I myself have seen salesmen's samples which must have prevented the sale, if that were possible, of the line.

And while we are on the matter of showing samples in the right way, I want to say also that a judicious distribution of samples, as well as a judicious handling of them, pays big dividends in sales. When a salesman is talking pencils to a prospect, let him give the prospect a chance to use the pencil he is talking about. This means that he should have more than one sample of certain leading styles—like Dixon's Ticonderoga—with him and they should be properly pointed. Everyone likes to write with a good lead pencil. It always helps the sale to get the prospect interested in writing with the pencil you want to sell him. You give him a taste of it and, you

know, the appetite grows by what it feeds on.

Another help to increase sales is through increased knowledge of the article to be sold. Stationery salesmen should post themselves so as to become expert enough to give advice to users of lead pencils. They should, as far as tact will permit, thrust this advice before consumers. The ways of selling are many, but I find myself listening more and more to the salesmen who can tell me something about their lines. I am willing to believe that others in a similar position find a similar tendency growing greater all the time.

What other things during 1924 could stationers do to increase their sales of pencils? One more thing, certainly. That thing is also a fundamental which needs to be hammered on all the time. I am now thinking of the advertising display pieces, such as our 1923 Ticonderoga cutout, which I have been pleased to see in so many places in different parts of America during the past three or four months. This and all other such expensive pieces of pencil display material should be brought to the light of day and given a chance. Packed away underneath a counter, or in a closet, or forgotten in a corner somewhere lie too many of these well-thought-out efforts of the artist and lithographer. What good are they there? Yet the most thoughtful observers of the effects of advertising contend that such pieces, put on view at the point of sale, have a very real influence on the making of sales. Consider the universality of the lead pencil—how every man, woman and child who

(Continued on page 10)

Graphite

PUBLISHED BI-MONTHLY BY THE
JOSEPH DIXON CRUCIBLE CO.

AT JERSEY CITY, NEW JERSEY, U. S. A.

In the interests of Dixon's Graphite Productions, including Crucibles, Lubricants, Pencils, Paint, etc. Sent free upon request

Vol. XXVI JAN.-FEB., 1924 No. 1

"Lend Me a Pencil!"

BUT why should anyone do that? For what is more universally distributed than the lead pencil?

You can get a good one where you buy your cigars or cigarettes or tobacco for your pipe.

You can buy one at most drug stores.

Even grocery and hardware stores carry pencils.

And the newsstands at railway stations have them.

Universally used and distributed.

But the day has not arrived when every man can present a lead pencil on demand.

Carelessness with regard to pencils is proverbial.

"Come easy, go easy," as you might say.

Why, when pencils are so plentiful, so good, so cheap, and so easy to get, why should anyone form the habit of borrowing a pencil?

It's really like the habit of borrowing cigarettes or matches—but less amiable.

There are two types of borrowers of pencils.

One asks for the pencil saying: "Lend me a pencil."

The other takes it without so much as saying: "By your leave, sir!"

Then, the owner is distressed to find himself without his trusty companion when he has to make a quick

memo, or do some figuring, or put down his O. K.

People should get into the habit of looking after their lead pencils. Each one should have a sort of pencil inspection drill—morning, noon and night. "Present Pencils!"

Then should follow examination of personal stock, as to length, sharpness, kind, degree of hardness.

When this stock is in good shape, you can give yourself a good mark or a word of approbation.

If not, be censorious with yourself, and resolve to "fall out" and make matters right at once.

Your stationer is always glad to fix up such a little thing without delay.

Sermon for Salesmen

(Continued from page 9)

can write is in constant need of it in school, shop, office, studio and store. Consider how most people are often without a lead pencil. Consider that those that have them, in a great proportion of cases, haven't just what they want. And remember that these advertising pieces are designed to remind your customer that here and now a stock of pencils should be ordered by him.

A fourth way that occurs to me to increase pencil business is for the salesmen to select such a pencil as Dixon's Ticonderoga, for example, and drive on that pencil. Talk it up. Show samples of it. Keep at it all the time. Constant hammering always reaches its goal in the end. Differences of tastes, like differences of opinion, add to the color of existence—but, after all, there are certain primary colors which attract and satisfy the vast majority. By concentrating on one or two such standard items of pencils, a retail salesman's results are bound to show improvement.

DIXON'S 677



Dixon's 677 may be obtained in steel drums with pump, providing a quick, clean means of lubricating gear-boxes. A necessity in every garage and service station. Write for quotations.

A Transmission and Rear Axle Lubricant of Dixon quality, that will function long after ordinary lubricants would have failed.

Not only does it last long, but it *lubricates* to the end.

Its superiority over other lubricants is quickly evident to those who use it. They appreciate its economy and the rare type of service it renders.

*Try it
and be convinced*

JOSEPH DIXON CRUCIBLE COMPANY

JERSEY CITY, N. J.



Established 1827

Makers of Quality Lubricants

A Trip to Ticonderoga

AT Montcalm's Landing—what a name to conjure up spirits of the dim, dead past!—the train stopped in the dark; two tired bodies, laden with moving-picture-taking paraphernalia and grips, tumbled out into the night. A quick call to a waiting friend; then all hands bundle into the standing auto. As the car speeds over the road, someone asks, "What road is this?" "Montcalm Road," is the answer, and then more questions, taxing the local historical knowledge

of the guide of the party, but not his good nature. In a few more minutes, a bright light shows the nearing village of

Ticonderoga. More questions, more answers. And now we are at Ledger's Inn, the fine hotel at Ticonderoga. Tho' late and cold, a stroll through the main street, to spy out, if possible, something of tomorrow's sights. But the night held its secrets well.

"Early to bed and early to rise" is the motto of the expedition. In the pleasant dining-room of the Inn

some traveling men are joshing one another over their breakfast. The waitress brings us—well, to one of the party, a meal

worthy of a poem. Such wheat cakes! Such sausage!

"Only a cook beyond compare,
Only a taste both just and rare,
Only a character, kind and good,
With a hand to match, could
make such food!"

On the road to Fort Ticonderoga at last—a little detour brings us to the house of the manager of the estate that surrounds it.

Now we are going through the park; now we get out at the entrance where the new log cabin is.

What a blowy day; sunshine for a moment, then darkened skies, then bursts of rain. What a day to take pictures—but take them we must, chancey or not.

Oh, for the grand pen of a Parkman to lay this scene before you. Staunch Ticonderoga — bastion and battery, cannon and culverin, redoubt and glacis—and then the four of us struggling in the wind with a great Old Glory that went flapping up like a great eagle to the mast-head. There she streams overhead, a sight somehow stirring, sinking in, unforgettably.

No sound save the clanking of the steel-mast and the whistling wind; no sight save shining water, a bold headland, dark Mount Defiance on the other bank; and this never-dying relic of the past.

Quietly stands the Fort; no bustle of armed men, no stir of war-like preparation. In the West Barracks, even a museum—and what a storehouse of ancient things that bear on our Colonial and Revolutionary history!

On all sides you hear great names. In the village a stone marks the spot where he fell, whose death was the ruin of fifteen thousand on July 8,



The Last of the REVENGE



The Flag Flaps at "TI"



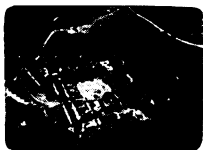
French Lines at "TI"



Ethan Allen Gate

A Trip to Ticonderoga

(Continued from Page 12)



Aeroplane View
Courtesy of
Mr. Stephen H. P. Pell

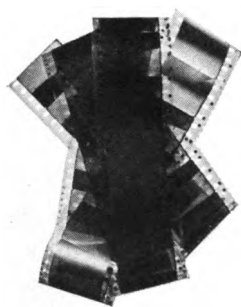
1758; the man beloved of Colonials above all other English soldiers of his day, Lord George Howe. And here are the French Lines, the earthworks thrown up beyond the Fort—"Carillon" it was called then) by the French General Montcalm. This is Ethan Allen's gate, through which he and his Green Mountain Boys entered, May 10, 1776. Under the Grenadier's Battery, fronting Lake Champlain, lies the skeleton of the REVENGE, all that now remains of the first American fleet ever assembled.

Sirs, a spot to kindle your blood. And that it is so today can be credited to the patriotism of one man, Mr. Stephen H. P. Pell, in whose family the ownership of this American Shrine has rested these many years. He built it up from a mere ruin; and he is making daily a more beautiful and alluring setting for this lovely and romantic pile which has a name fit for reverence—TICONDEROGA.

OPEN TOO LONG.—Some so-called open minds should be closed for repairs.—*Arkansas Thomas Cat (Hot Springs).*

ADVANCEMENT. — "To-day I have been twenty-five years in your service, sir."

"Yes. And look how you have risen. When you began you only got 100 marks a month—and now you get 1,000,000!"—*Meggendorfer Blaetter (Munich).*



The Very Latest in Movies:

How a Dixon Pencil Is Made

IT would surprise you to see how it is made. If it is a part of your business to sell Dixon Pencils, the sight would be worth seeing. So say all those who travel to Jersey City and have the good fortune to take the trip through the Dixon plant, especially if escorted by one Richard Van Dien, who knows the history of lead pencil making so well and who can discourse so interestingly upon it—who is a walking encyclopaedia on the subject.

Well, thus it is and more, namely: so many, many people have suggested that we have the processes and the plant photographed in moving pictures that we finally decided to have it done.

It is some job—to do it well. Days are spent in "shooting" the pictures; developing them; and constructing the story so that it will move nicely from start to finish. Then, the titles must be written and placed, requiring much writing and re-writing and patient study and planning.

But the job is done—or all but done. And by the time this GRAPHITE is "put to bed" the first of the films will be ready.

Our main object in having these

(Continued on Page 19)



FROM the city of Los Angeles, California, h a s come to us a letter written by Capt. James McDowell of the Traffic Division, which deserves the place of honor in this issue in the Guide Post. We shall give his letter in full because it is so

interesting and because it tells of a new and, we think, important use for Dixon Lumber Crayons. As we understand it, the colors most favored for the work described are Dixon's Red Lumber Crayon, No. 520 and Dixon's Blue Lumber Crayon, No. 521.

We wish very much indeed that we could reproduce in this issue of GRAPHITE the photograph of the members of this squad. It certainly is impressive and forces home the conclusion that in their hands the joy-rider and speedster are handled as they deserve to be.

Capt. McDowell's letter follows:

"The Traffic Division of the Los Angeles Police Department has grown very rapidly in the past few years, and it now consists of 1 Captain, 1 Lieutenant, 7 Sergeants, 1 Stenographer, 1 Clerk, 30 motorcycle officers, and 157 policemen, 130 of which direct traffic on crossings, making a total of 198.

"Regulating traffic and preventing accidents are very difficult in our city, due to so many narrow streets and the very heavy traffic upon them. In our congested district, 920 street cars use our streets daily, carrying 1,020,000 passengers.

Seventh and Broadway is our busiest crossing, and at this intersection 390 street cars, 26,978 pedestrians, and 1,486 vehicles cross there between 4.30 P. M. and 5.30 P. M. daily. In the County of Los Angeles, 382,811 cars are registered, and there are an average of 200,000 automobiles in our congested district daily. I think this is not exceeded in any other city.

"It can easily be seen that such an amount of traffic requires very careful regulation to keep it moving smoothly. We find it necessary to keep a close check on cars parked at the curb, in order that no one may park too long a time, and prevent others from stopping when necessary. The best way we have found of doing this is by marking cars that park too long with the Dixon Lumber Crayon. This enables us to keep a check that can be depended upon on cars that are parked too long. As we have many officers checking, you can easily realize that the Dixon Crayon plays a very important part in keeping the wheels turning and traffic moving."

Pencil Illustrations in Ads

(Continued from Page 4)

ested. Ernest W. Watson is a skilled pencil renderer. The animal specialist, Charles Livingston Bull, makes lovely pencil sketches of animals. Kenneth Conant, Hugh Ferris, Otto R. Eggers, are leaders amongst the architectural draftsmen using the lead pencil for finished drawings. Vernon Howe Baily comes to mind as one of the pioneers with the pencil in illustration. And abroad, the work of such distinguished artists as Frank Brangwyn and Muirhead Bone shed lustre on this instrument. And John Ruskin was a master with the lead pencil.

On Board S. S. President Wilson, Shanghai

JOSEPH DIXON
CRUCIBLE
COMPANY
Jersey City, N.J.
Gentlemen:

I am finally on my homeward journey and take this opportunity to write you a little more fully of the things that have happened within the last two months.

To be perfectly truthful, when I came up the river on the S. S. Dongola, which is a P. and O. steamer, and saw the city of Shanghai, my feelings were rather mixed as to what I would do when I got on shore. Up to that time, I had been unable to obtain any clothes and was still attired in my once white duck clothes. When I stepped on shore from the tender, it was very good to find out that I still had many friends in Shanghai. A friend in Shanghai placed a car at my disposal. The first place I visited was my banking connection, the American Express Company, and was really overjoyed to find a check for \$1,000.00 which was sent to me jointly by the Boorum Pease Company and the Joseph Dixon Crucible Company, which enabled me right away to take care of present needs.

The ship has just left Yokohama and I want to write you something concerning the situation there. When we got under way, the scene all around was one of desolation and misery. Before, upon entering the harbor, one was impressed by the magnificent buildings, among which were the Standard Oil Company, the Grand Hotel and the Oriental Hotel. These places were represented by a heap of bricks, twisted steel, etc. Connections with the shore from the pier were made by a string of junks. A junk is a small boat propelled by sweeps. To reach the shore, one walked from one junk to another for a distance of about one-quarter of a mile. You saw very few foreigners—only those connected with the Consulate or Diplomatic Corps. A strange sight I observed in Yokohama was the American Consulate. The peculiarity of it was that, in the teeth of a raging fire, there was still a part of the flag pole left and the American flag flying. On the grounds there is no building, but there are about twelve army tents that were sent



from Manila. There is one sign there—"Tent No. 5, International Banking Corporation."

I saw a Major in the U. S. Army with whom I had a slight acquaintance in Manila. He was occupying one of these tents and has taken care of any sickness

that might come to his attention. He informed me that while it is not generally known, there are many cases in Japan today of typhoid fever, dysentery and typhus, most of which are caused by people not being able to secure clean drinking water after the earthquake. This gentleman informed the writer that it was quite a heart-breaking job, but that things were coming along a little better and the situation was in hand.

The Japanese had organized the work of clearing up the debris. They made pathways as near as possible where the world-famous streets of Yokohama used to be, such as Bentin Dori, Water Street and Main Street. Things were so jumbled up that I couldn't accurately pick out where former large houses, which could be considered as land marks, stood. There was one place that could not be mistaken and that was the warehouse of the Singer Sewing Machine Company. By poking around the ruins of probably 10,000 machines, I could just about make out that they were once sewing machines. On all sides I could see safes. Some had been broken open by robbers and some were broken open by organized safe-breaking parties. Safes were opened and papers taken out under the supervision of the British and American consuls. It would seem that the money would have been intact when the safes were opened, but in a good many cases, the heat had been so intense that the money was crumbled to dust.

The quake has changed every familiar land mark. The foreign residential section known as "The Bluff" is scarcely recognizable. With very few exceptions, there are no living accommodations whatsoever in Yokohama except in tents. A few hardy pioneers, especially those people who own land on a perpetual lease system and who do

(Continued on page 21)



“Eldorado”—“Best”

**Window—Lowman & Hanford Co.
Seattle, Wash.**

Please observe the design of this window.

We never saw one with better balance.

It is a model of simple balanced window-display.

And you don't commence to realize, until you study it a bit, that it is more than this.

It must have also been a colorful display, with the color-masses effectively placed.

How the eye, caught on either hand, is led to the central grouping!

This is the sort of window people linger at. The story is so simple and easy-to-get and so interesting.

This is the kind of window that makes sales.

This is the kind of window our Dixon Display material will help you build, Mr. Window Dresser.

Dixon Pencil Men in Conference

The Stationery Trade is naturally interested to hear of conventions held by manufacturers of products which they sell. For these conventions, which bring the field men and the staff at headquarters together for a number of days, have two results which are beneficial to the distributors of the manufacturers' products. First, the salesmen learn more about their line; and second, what is, perhaps, more important, headquarters learn more about the attitude of the Trade and about needed changes and additions to the Line.

A lot of work along these lines can be done in four days of hard, earnest work. What is done depends on the spirit of those that make up conferences. And there was certainly no lack of that element in the Dixon conference this year. It was voted finally to be the best one ever had, which is saying a good deal.

The conference lasted four days, with each day a very full day, and

(Continued on page 17)



A Window in Phoenix, Ariz. The McNeil Company

And what do you suppose we thought of when we saw this photo?

Yes: Sunlight.

The window is full of it.

This is giving the bright colors of the displays and the goods themselves a chance.

We like this attractive little window very much, indeed.

It is inviting to look at; cheery and pleasant.

There's a smile in it.

Smiles sell goods.

♦
PUT SALT ON THEIR TAILS.

—COCA—"Have you read 'To a Field Mouse'?"

COLA—"No, how do you get 'em to listen?"—*Purple Cow.*

Dixon Pencil Men in Conference

(Continued from page 16)

was attended by the following representatives and headquarters men:

Mr. George T. Smith, President; J. H. Schermerhorn, Vice-President; William Koester, Treasurer; Herman Price, Manager, Pencil Department; W. B. Allen, H. W. Armstrong, W. B. Bostwick, E. N. Detrich (absent on account of illness), Harold Eadie, J. K. Edwards, Walter E. Haggerty, William E. Haggerty, C. M. Harding, G. W. Hart, M. H. Jackson, J. J. Leckie, I. L. Levison, W. E. Lowenthal, F. Mix, C. P. Mueller, P. H. Myers, C. A. Orth, A. J. Pfaff, G. H. Reed, E. A. St. John, E. A. Sell, W. G. Stringer, H. B. VanDorn, and W. C. Weaver.

J. M. Willitts Manager, Lubricating Sales Department

WE wish to announce the appointment of Mr. J. M. Willitts as manager of our Lubricating Sales Department, effective November 1, 1923.

Mr. Willitts first came with the Dixon Company in September, 1902 as a stenographer. After a few months, he resigned. In September 1904, he again came with the Company and has remained in its employ ever since. From stenographic work he was advanced to order clerk, and in April 1908, he started selling General Productions, continuing in this line until 1919 when he was called to Jersey City for a period of six or eight months. Upon his return to the Philadelphia Office, he took charge of organizing a selling campaign on automobile lubricants. Since that time, he has worked as a salesman in the Philadelphia District until called to his new post on November 1, 1923.

He has always been a plugger and successfully handled all of his undertakings. The Trade upon whom he called have all spoken of him in the highest terms. For a number of years he has been actively connected with the trade organizations in Philadelphia, and the past year was President of the Supplymen's Association of the American Order of Steam Engineers.

Mr. Willitts takes over his new work with the very best wishes of all the Trade as well as those of his old and new associates.



"Pencil economy, then, is not read on the face of an invoice, but is found by experience."



Jobbers and Retailers

Hearken to this—

the Dixon famous *Wedge* eraser can now be had on a new card which is brighter and better than the old one.

The card is now as good to sell the eraser as the eraser is to use.

Write us for further information.

**JOSEPH DIXON CRUCIBLE
COMPANY**

Pencil Dept. 190-J

Jersey City

New Jersey



First Christian Church Burlington, N. C.

THE above illustration shows the First Christian Church of Burlington, North Carolina, the roof of which is painted with Dixon's Silica-Graphite Paint.

As may be seen, this is a beautiful edifice and all care is taken to keep it in the best condition possible. Hence, the selection of Dixon's Paint as a means of protecting the roof is not strange.

Dixon's Paint is widely used for church roofs and other metal work such as iron fences, gateways, etc. It not only lasts longer, saves frequent repainting and the consequent labor and material costs, but it also makes a good appearance.

Mr. W. K. Holt, of the Kirk Holt Hardware Company, Burlington, N. C., well-known dealers and boosters for Dixon's Paint, was chairman of the building committee and largely responsible for the use of Dixon's. He has recommended Dixon's Silica-Graphite Paint for over 25 years and

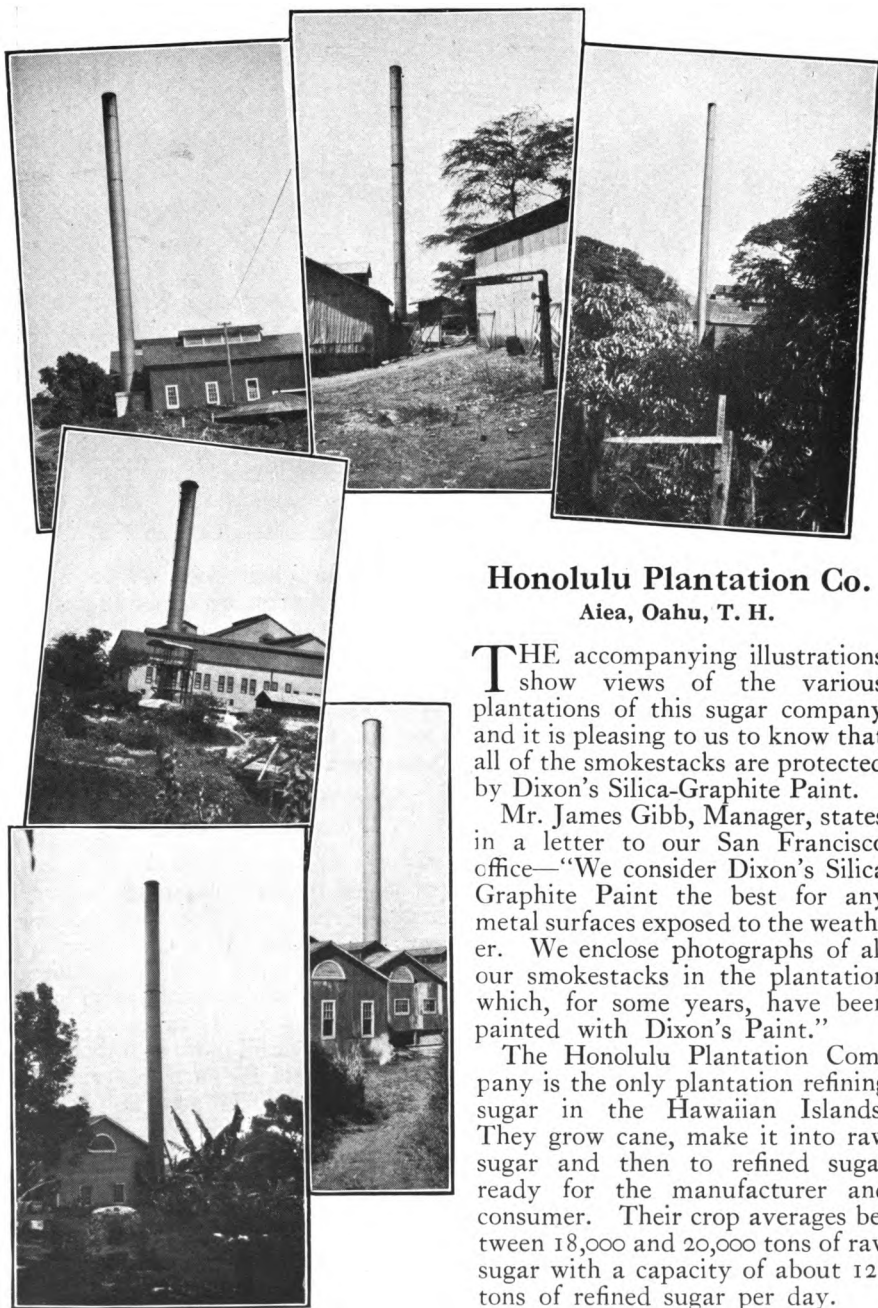
is therefore well qualified to make such recommendations as he knows its exceptional long-wearing qualities.

Other church trustees and building committees might well take note for future reference.

The Very Latest in Movies

(Continued from page 13)

films is to provide thereby a means of visual instruction to salesmen of customers. Booklets have been written on this subject before—but the pictures tell a story that makes the best-written account seem pale and inadequate. Then, schools are looking more and more to important manufacturers for such material for classes in industrial geography. Do not be surprised, therefore, if some day your bright little boy or girl in school tells you how Dixon Pencils are made. And if you hear that the Dixon film is to be shown at your favorite moving-picture house on a certain night, be there. It will well repay you.



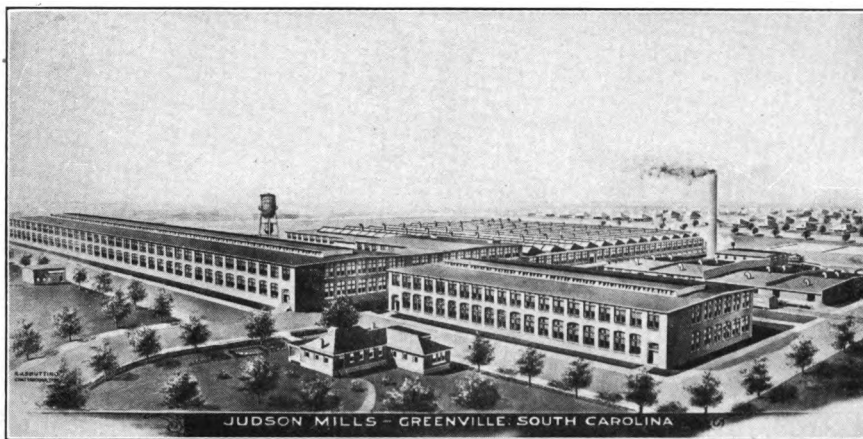
Honolulu Plantation Co.

Aiea, Oahu, T. H.

THE accompanying illustrations show views of the various plantations of this sugar company and it is pleasing to us to know that all of the smokestacks are protected by Dixon's Silica-Graphite Paint.

Mr. James Gibb, Manager, states in a letter to our San Francisco office—"We consider Dixon's Silica Graphite Paint the best for any metal surfaces exposed to the weather. We enclose photographs of all our smokestacks in the plantation which, for some years, have been painted with Dixon's Paint."

The Honolulu Plantation Company is the only plantation refining sugar in the Hawaiian Islands. They grow cane, make it into raw sugar and then to refined sugar ready for the manufacturer and consumer. Their crop averages between 18,000 and 20,000 tons of raw sugar with a capacity of about 125 tons of refined sugar per day.



Judson Mills, Greenville, S. C.

THE above photograph shows the Judson Mills of Greenville, S. C., which was recently repainted with Dixon's Silica-Graphite Paint.

This concern has also used Dixon's Paint on the metal work of their mill village as illustrated in GRAPHITE for September, 1917.

Dixon's Silica-Graphite Paint is used extensively in the cotton industry throughout the South by such concerns as:

Judson Cotton Mills
Standard-Coosa-Thatcher Co.,
Chattanooga, Tenn.
Erwin Cotton Mills, Durham, N. C.
Republic Cotton Mills, Great
Falls, S. C.
Deep River Mills, Randleman,
N. C.
Glencoe Mills, Burlington, N. C.
Albany Cotton Mills, Albany, Ga.
Lily Mills, Spray, N. C.
Long Island Cotton Mills, L. I., N. C.
Asheville Cotton Mills, Asheville,
N. C.
Pauline Mills, Kings Mountain,
N. C.

Their superintendents and engineers experiment and test and do not

adopt a protective paint unless it renders the best and longest service. That is why Dixon's is specified and used. It is made in **FIRST QUALITY** only and pure boiled linseed oil is used as the vehicle.

Dixon's Paint is worth the price on an economy basis, because it *lasts longer* and therefore costs less for labor and material.

On Board S. S. President Wilson, Shanghai

(Continued from page 15)

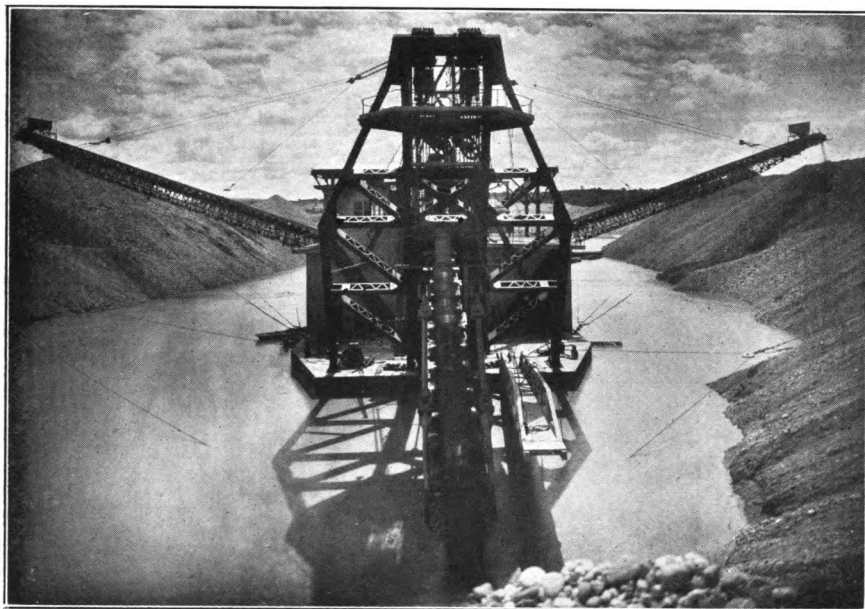
not wish to lose their land, have, as far as possible, been putting notices up to the effect that the land belongs to them. They put up a tent and live right on the job.

The Wilson is making very slow time because at the time of the quake, she rushed to the assistance of Yokahama and was forced to use salt water. This causes boiler trouble and every once in a while a tube will blow out. Hence, instead of our usual 18 knots, we are making from 10 to 12. The weather is pretty bad, as it always is at this time of the year, but I am looking forward in Honolulu to better weather, and, most important of all, a successful business visit to these islands.

Please accept my sincere thanks for your kindness extended during this period of trouble. Trusting to be shortly with you, I remain,

Very sincerely yours,

HAROLD EADIE



Outline of Gold Dredge Construction

The Construction and Operation of Gold Dredges Constitute Most Important Lines of Engineering Endeavor. Certain Features of Interest Are Here Covered in Detail

BY NEWTON CLEAVELAND
Vice-President and General Manager, Yuba Mfg. Co.

LIKE other important industries, gold dredging has reached its present successful stage only after a long evolutionary period. Over seventy-three years ago, or shortly after the discovery of gold in California by Marshall, a machine was shipped around the Horn for use in digging gold-bearing gravel from the river beds and streams of this State. Following the early sinking of this apparatus in the Sacramento River, numerous other attempts were made to dredge gold in the Pacific States but up to about 1894 none of these were successful. It may be stated that with the completion of the first practical gold dredge in California in 1898, a new era in gold mining was reached. Continued improvements have accompanied the design and construction of the gold dredge along with the extension of gold dredging operations, which are more conspicuous here in California than anywhere else in the world, and what is known as the California form of dredge has now become a standard type of construction

that is followed by various other gold producing countries.

Briefly, the gold dredge referred to may be described as a bucket elevator mounted on a pontoon or boat, with an opening toward one end through which the endless line of buckets are operated. The bucket line passes over a large round tumbler at the lower end of the digging ladder and is operated by an upper tumbler which is driven by means of motor and gearing. The ladder carries a series of rollers on its upper face for supporting the bucket line and is itself supported at its upper end by a superstructure or gantry, while the lower end of the ladder is supported by cables and sheaves from a gantry at the front end of the dredge.

As the gravel is excavated and brought up by the buckets, it is discharged into a hopper, the sides and bottoms of the buckets being cleared of sand, fine gravel and gold by streams of water from properly directed jets. The gravel and water pass from the receiving

hopper to a screen which in revolving accomplishes the separation of coarse gravel from the fine. In this process water is sprayed under heavy pressure onto the moving gravel through perforated pipes which extend nearly the entire length of the screens. From the lower end of the screen the coarse gravel is passed along by a conveyor and stacked behind the dredge. The stacker is shown projecting from the dredge at the end of the hull opposite the bucket line. The perforations in the screen allow the gold-bearing material to pass through into a distributor and from this point the material flows over riffles or tables where mercury amalgamates and saves the gold. Such material as fine sand and gravel passing the gold-saving tables is carried through sluices to the rear of the dredge.

For the digging process the bucket end of the dredge is swung back and forth through an arc by means of a swing winch and side lines.

The evolution of the gold dredge is indicated by the evolution of the dredge bucket. The first gold dredges had buckets of only $2\frac{1}{2}$ to 3 cubic feet capacity and it would have been rash prophecy at the time to have predicted the development of the present day, with bucket capacities up to five and six times the above figures. However, there are today quite a number of dredges of this make in operation with 17-foot buckets and the two-stacker boat in Fig. 1 carries a line of 100 buckets each weighing two tons and having a capacity of $18\frac{1}{2}$ cubic feet. The development of the bucket alone, with its manganese steel bottom, removable lip, and nickel chrome steel bucket pin would form an interesting account of extensive experiments with different high grade alloy steels and heat treating processes resulting in the present efficient and long-lived bucket construction.

The steel hull of the dredge, Fig. 1, is 166 feet in length by 56 feet wide. It is $12\frac{1}{2}$ feet in depth. Its bucket line operates to a digging depth of 84 feet below the surface of the water and allowing for a height of bank of 20 feet, the digging depth below the surface is 104 feet. Each of the stackers operating at right angles to the hull itself has a length of 225 feet and the over-all measurement is 508 feet across the stacker ends. Another striking dimension is the height of the gantry which supports these stackers, this being 110 feet from deck to top.

The dredge weighs complete 3200 tons, and its digging capacity is rated at 15,000 cubic yards for a run of 20 hours. The main digging motor has a rated capacity of 500

horse power and the total electric motor capacity for all equipment aboard the boat is 1075 horse power. The dredge is operated by a crew of four men.

While the dredge referred to is electrically driven, others are built to be operated by gasoline or steam or electricity, according to the section of the country in which they are to be used.

The erecting of a dredge is an engineering undertaking requiring skill and judgment throughout the entire construction period. It will be of interest in this connection to refer to one of the largest of the all-steel boats built by the above company. This dredge with steel hull, steel deck and steel gold-saving tables and equipped with buckets of 17 cubic foot capacity for digging 70 feet below the water level, was erected and put in operation in four months and four days after the first steel was laid.

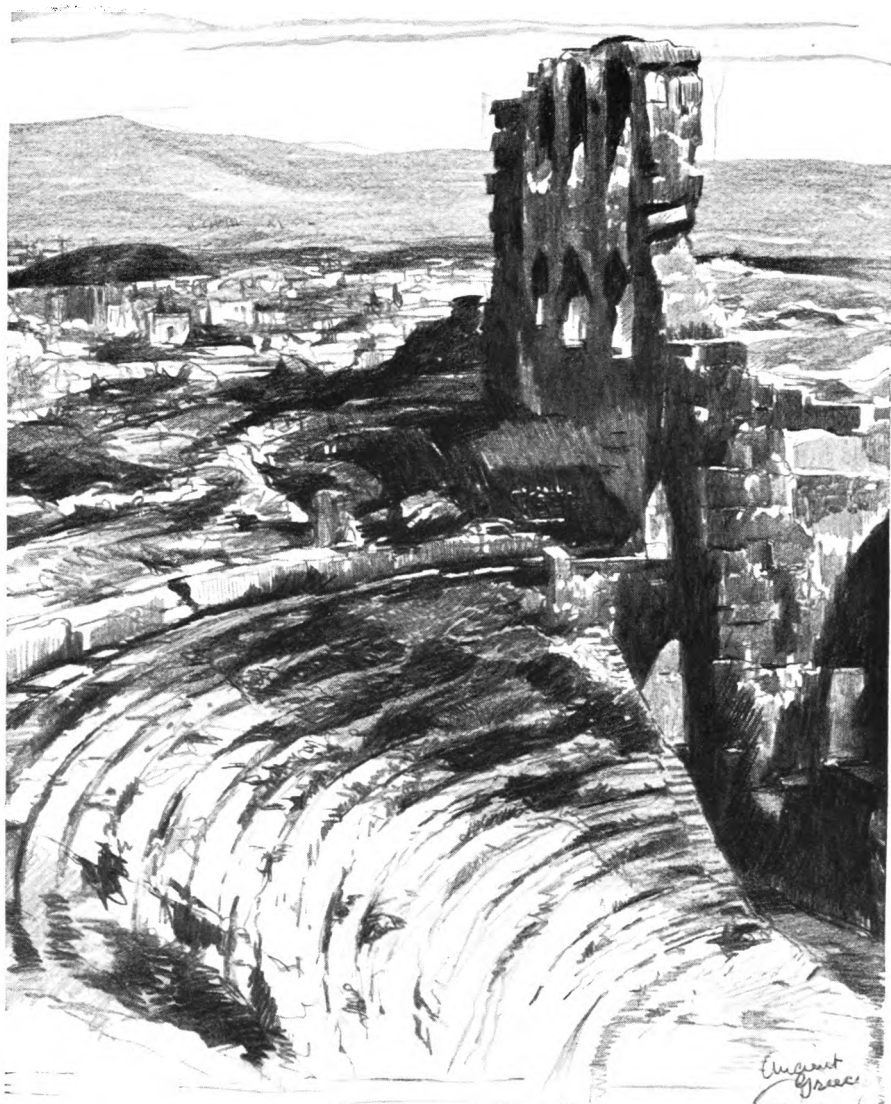
The heavy character of some of the machine parts is indicated by the weights of such units as upper and lower tumblers for the bucket line, the main driving gears, the buckets and pins to which reference has already been made in another part of this article. Thus the upper tumbler alone as formed integrally with its shaft may weigh over twenty tons. The main gears on Dredge 16 are cast in manganese steel and are 12 feet in diameter with a face of 14 inches. These parts and others of similar character form important examples of modern foundry and shop procedure.

Dixon's Graphite Waterproof Grease is used exclusively on the lower tumbler bearings of these dredges as it has been found to give greater satisfaction than any other kind.

This grease is so dense and adhesive that it retards the entrance of grit into the bearings, and thereby prevents the rapid abrasion that is so destructive to these massive parts.

◆
A JOYFUL WEDDING.—The ushers embraced a group of intimate friends of the bridegroom.—*The News (Birmingham, Ala.)*.

◆
THAT KIND OF A TIRE.—If the party who took the auto tire from 380 E. Piccadilly Street will call, he can get the five blowout patches that belong with the tire.—*Classified ad in the Winchester (Va.) Evening Star.*



THERE is but one master drawing pencil. Some day you will try it, and then, forever after, one name will come quickly to your mind when you think of the best pencil you have ever used. And that name is

DIXON'S ELDORADO

"the master drawing pencil"

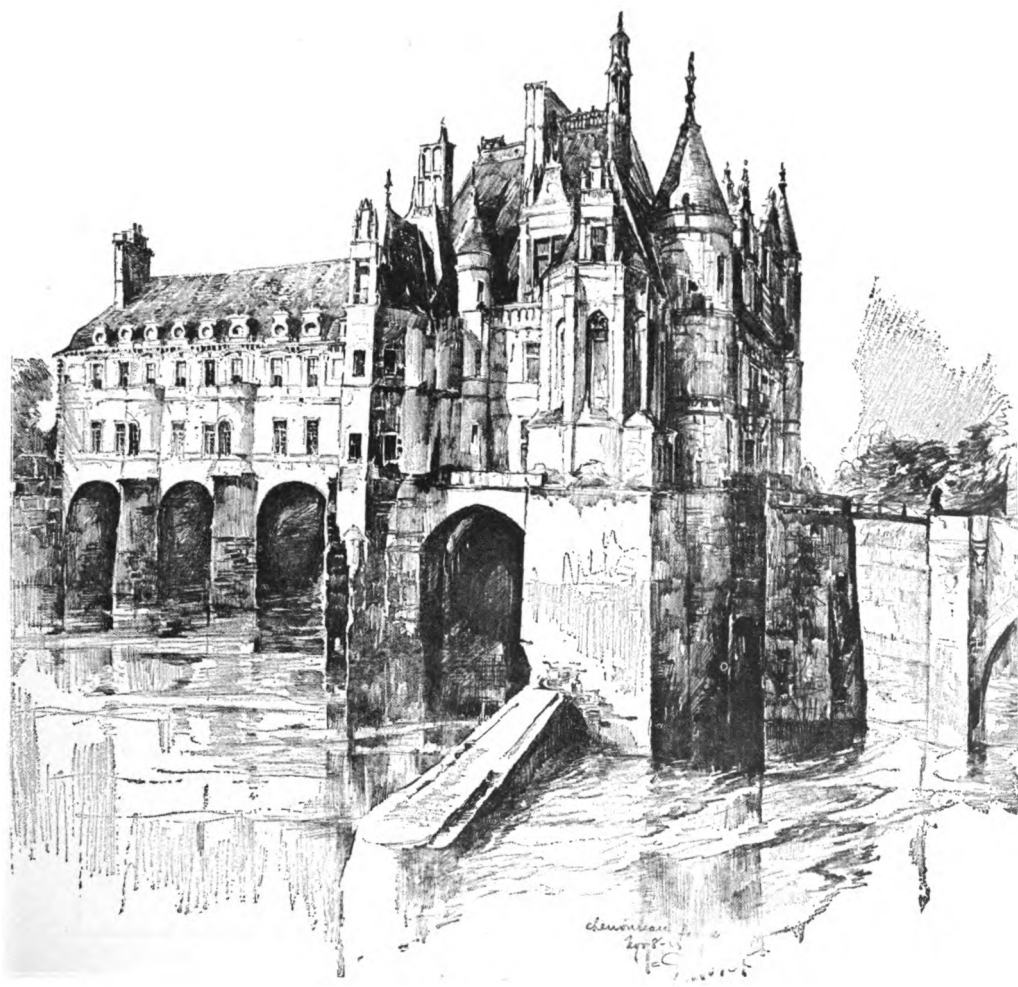
JOSEPH DIXON CRUCIBLE COMPANY, Pencil Dept., 190-J, Jersey City, N. J.

Graphite

VOL. XXVI

MARCH-APRIL, 1924

NO. 2



JOSEPH DIXON CRUCIBLE CO.

ESTABLISHED
1827

JERSEY CITY, N. J., U. S. A.

INCORPORATED
1868



*Miners, Importers and Manufacturers of
Graphite, Plumbago, Black Lead*



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GEORGE T. SMITH, *President*

J. H. SCHERMERHORN, *Vice-President*

HARRY DAILEY, *Secretary*

WILLIAM KOESTER, *Treasurer*

JOHN I. McCOMB, *Assistant Secretary*

J. W. ROBOTOM, *Assistant Treasurer*

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GEORGE E. LONG

GEO. F. PERKINS

EDWARD L. YOUNG

J. H. SCHERMERHORN

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PURCHASING AGENT

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Montreal, Quebec

Graphite

A MAGAZINE PUBLISHED BY THE
JOSEPH DIXON CRUCIBLE COMPANY

AT JERSEY CITY, N. J.
U. S. A.

Volume XXVI

MARCH-APRIL, 1924

Number 2

Chenonceaux

(See Illustration Front Cover)

Earl Horter

Writes from France

That this is Chenonceaux!

Or that part

Called the façade

Which has served

Generations of architects

As a model . . .

And that

A great American mansion

After this design

Gazes out

On the North River

From Riverside Drive . . .

You know

John Keats sung

About a Thing of Beauty...

It never dies,

But goes, a joy,

From land to land

Forever.

MR. TRACY'S GOLDEN ANNIVERSARY

**Celebrated by Dinner Given by the Board of Directors of the
JOSEPH DIXON CRUCIBLE COMPANY**

FROM GEYER'S STATIONER

FIFTY years ago a certain youngster entered the service of what has since grown to be one of the world's great pencil industries. And on March 1st last, in the Biltmore Hotel of New York City, this same youngster, now a hale and hearty veteran, was tendered a fitting tribute by the Board of Directors of his organization, which took the form, first, of a complimentary dinner, to be followed by the presentation, wholly unexpected, of a beautiful watch and chain, which quite overwhelmed its recipient. The gentleman in question is Mr. John A. Tracy, Superintendent of a well-known Pencil and Eraser Factory. And the name of the concern that so generously acknowledged his worth as a man and as an executive is the Joseph Dixon Crucible Company of Jersey City, New Jersey.

The occasion will always be remembered by the hosts and the guest of honor and the invited guests as a memorable one. Mr. George T. Smith, President of the Joseph Dixon Crucible Company, delighted in serving as toastmaster, and it was

his pleasurable duty to read dozens of congratulatory telegrams, coming from Dixon competitors, from Dixon sales representatives in the field, and from intimate personal and business friends of Mr. Tracy. These ringing testimonials of respect and esteem emphasized Mr. Tracy's standing without the Dixon ranks and within, and were a most pleasing feature of the affair.

During the evening the hosts and the invited guests vied with one another in lauding the guest of honor. The Dixon Vice-President, Mr. J. H. Schermerhorn, insisted that "one of the remarkable things about Mr. Tracy is that after fifty years of service he is a young man, going strong, in full charge of every activity in the pencil, rubber and brass depart-

ments, and we believe and hope that he will have many years more of usefulness to the Company, of which he is part owner.

"Mr. Tracy's success," said Mr. Schermerhorn, "is a marked illustration of ability, stick-to-it-iveness and loyalty, as he has never known any other employer than the Dixon



Mr. John A. Tracy
Supt. Pencil and Eraser Factory

Company, having come with us as a young boy and worked up from the bottom of the ladder.

"Mr. Tracy," continued Mr. Schermerhorn, "is a man of remarkable executive ability, which may be gathered from the growth of the factory during his superintendency from a small experimental plant to what is one of the largest pencil factories in the world. Like most able men, Mr. Tracy has surrounded himself with able lieutenants, to whom he has shown himself an appreciative and magnanimous leader."

Mr. Edward L. Young, Senior Director of the Company, recognized in his speech of congratulation the loyalty and ability of Mr. Tracy, and took occasion to speak of what it has meant to the Dixon Company to have as its President a man of the rare organizing ability of Mr. George T. Smith. Mr. Young also emphasized the spirit of co-operation which President Smith has instilled into the Dixon organization during his administration.

Mr. George F. Perkins, the "Baby" Director of the Dixon Company, adverted to his own two years of service on the Dixon Board as making him feel very much like a child beside Mr. Tracy's life of service; adding that, pleased as he was himself to have been the recipient of a charm then in his vest pocket for a continuous connection of ten years with another company, he was in some degree able to understand how gratified and pleased Mr. Tracy must be at having rounded out a half century of service with such a concern as the Joseph Dixon Crucible Company.

Mr. Tracy's principal assistant in the Lead Pencil Factory, Mr.

Jacob Schick, and his principal assistant in the Brass and Rubber Works, Mr. James Law, spoke of the open and fair-minded way of Mr. Tracy's management of men and things in the Dixon Factories. They dwelt especially on his attitude toward suggested improvements and changes; how, even when he could not accept a suggestion, his considerate explanation of the reasons pro and con made his assistants feel encouraged to come forward with other suggestions later on.

The Manager of the Pencil Sales Department, Mr. Herman Price, in extending his congratulations to Mr. Tracy, said he could not help asking himself the question, what there was about the Dixon Company to attract a man of Mr. Tracy's capacity for a period of fifty years? The best answer to the question that he could think of was given by Director Robert E. Jennings at a Convention of Dixon Pencil Salesmen about five years ago when he stated that he felt honored when he was invited to become a member of the Board of Directors of the Joseph Dixon Crucible Company because he had always looked upon it as such a decent concern, managed by decent men, with a proper sense of the fitness of things.

On the other hand, Mr. Price stated that he could not help asking the question what there was about Mr. Tracy to attract the Dixon Company to him for a period of fifty years, and he replied that fundamentally he believed the same answer applied—namely, that Mr. Tracy is a decent man—and that this is entirely aside from his thoroughly demonstrated capacity as a factory executive, and aside from

the fact that, patterning after the rare example of President Smith, he knew how to use his heart, as well as his mind, in administering the affairs of the Dixon Company's Pencil and Eraser Factories.

Mr. Price added that the most honest tribute that he could pay to Mr. Tracy was to state that there was never a time in his experience when the Dixon Line of Pencils and Erasers was so highly regarded and approved by the Company's patrons, including both the distributors and the consumers, as right now while he is celebrating his Fiftieth or Golden Anniversary with the Dixon Company.

The banquet was brought to a close by a very effective address by President Smith, in the course of which he spoke impressively of the consideration that the Board of Directors had given to the question of fittingly celebrating this remarkable event in Mr. Tracy's career, and of the personal pride that he

had in being able to participate in such an unusual celebration.

President Smith took occasion to express some of his ideas on the subject of proper organization, and among other things stated that he believed he could get better and more effective service out of men in higher executive positions working eleven months a year than working twelve months a year. He pointed out that aside from the question of rest or relaxation for these executives, it created a period in the year for testing out the soundness of the organizations beneath these executives, and that where weak spots developed, it gave them an opportunity to strengthen them on return to their active duties.

He also expressed it as his opinion that no executive was properly functioning in his position unless he took pains to impart to his principal assistants all of the knowledge which he himself possessed, so that when

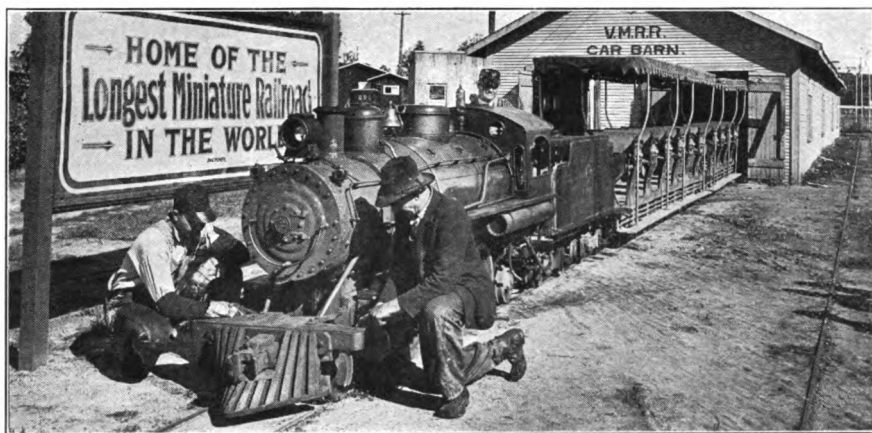
(Continued on page 31)



- 1—JOHN A. TRACY
- 2—GEORGE T. SMITH
- 3—EDWARD L. YOUNG
- 4—J. H. SCHERMERHORN
- 5—MATTHIAS D. EARL
- 6—HERMAN PRICE
- 7—SAMUEL J. DALRYMPLE

- 8—GEO. F. PERKINS
- 9—JOHN MOTION
- 10—F. ENGELBRECHT
- 11—THEO. B. VALLEAU
- 12—A. L. HAASIS
- 13—HARRY DAILEY
- 14—JOHN M. READY
- 15—RICHARD VAN DIEN

- 16—DANIEL HUNT
- 17—JOHN I. McCOMB
- 18—JAMES LAW
- 19—GEORGE NEIGHBOR
- 20—JACOB SCHICK
- 21—WILLIAM KOESTER
- 22—J. W. ROBTOM



Miniature Railroad

Venice, Calif.

WE are indebted to the Abbott-Kinney Company, founders of Venice of America, for the above photograph of one of their miniature railway trains. This is the longest miniature railway system in the world.

Such Dixon Graphite Products as Engine Front Finish, Flake Graphite, and No. 676 Graphite Grease, are used on this railway system with gratifying results.

Dixon's Graphite Products may be depended upon at all times to give entire satisfaction and many of the leading railroad systems of the country use them. Dixon's Brake Cylinder Lubricant and Hub Liner Grease have proved their worth in many cases.

SOMEWHAT PREPARED.—"I never saw but one man," said Uncle Bill Bottletop, "that I thought had a chance foolin' with bootleg liquor. He was a sword-swallower and his wife was a snake-charmer."—*Washington Star*.

Mr. Tracy's Golden Anniversary

(Continued from page 30)

the time came for his retirement from active service, these assistants would have the benefit of his knowledge and experience, in addition to their own, and would therefore be prepared in the future to carry on the work even better than it had been done in the past.

Finally, Mr. Smith turned to Mr. Tracy and on behalf of the Board of Directors presented him with a beautiful watch and chain. This was quite unexpected, as has already been said, and had the effect of overwhelming the guest of honor, but he came back gallantly in a little speech, paraphrasing the famous remark of a general who declared it easier to face a battery of guns barehanded than to rise adequately to such an occasion.

WETS AND DRYs.—"There are just two things that break up most of the happy homes nowadays."

"What are they?"

"Woman's love for dry goods and man's love for wet goods."—*Council Life*.



Annex, Rosslyn Hotel

Los Angeles, Calif.

THE above illustration shows the new annex of the Rosslyn Hotel, Los Angeles, Calif. This Annex will have three hundred rooms with private bath. The architects are John and Donald Parkinson; the contractors are Schofield Engineering Construction Co., and the steel was finished by the Llewellyn Iron Works.

A unique feature of the Annex is the subway tunneling Fifth Street, connecting the new Annex with the now present Rosslyn Hotel. No expense has been spared to make this subway a work of art and one of the showplaces of Los Angeles.

The steel tonnage in this building amounted to approximately 1,200 tons. All of this steel is protected with Dixon's Silica-Graphite Paint.

Dixon's Silica-Graphite Paint has established an enviable reputation as a protective coating for structural steel work. Surfaces to be concealed in erection need to be protected with a first quality paint and such is Dixon's.

The pigment is a peculiar natural combination of flake graphite and silica while the vehicle is the best linseed oil obtainable.

Many architects appreciate the worth of Dixon's Silica-Graphite Paint and are specifying it for every job.



E. L. Miller Mfg. Co. (Inc.)

Kansas City, Mo.

JOSEPH DIXON CRUCIBLE CO.,
Jersey City, N. J.

Gentlemen:

We are using Dixon's Pipe Joint Compound in plugging the core print openings in our Climax generators, also in connecting the oil lines with CLIMAX OIL BURNERS. We are more than pleased with the results.

With the use of this Pipe Joint Compound we are able to easily remove any pipe after it has been subjected to at least 1500 degrees F.

The CLIMAX BURNER makes an intensely hot fire and some compounds will burn and fuse with the metals, making it impossible to remove the pipes. We do not find this objection with the use of Dixon's Pipe Joint Compound.

Yours very truly,

E. L. MILLER MFG. CO. (INC.)

By E. L. MILLER.

American Radiator Company's New Building

40 West Fortieth St., New York City

THE American Radiator Company building at 40 W. 40th St. is a new departure from the conventional exterior treatment, attracting the attention of thousands of passers-by, on account of the color scheme, black with gold trimmings, and dominating the skyscrapers and classical structures in the vicinity of Bryant Park.

The building will be surmounted by a tower which consists of a circular tank built around the smoke stack or chimney, mounted on a superstructure, the whole enclosed in masonry. It will occupy one of the highest points of vantage in the neighborhood.

On the entrance floors there will be two stores so designed inside that approach to the second floor will be made by a series of steps resembling a grand staircase. Under these steps will be others leading to the basement. By this arrangement twice the amount of space is gained for the ground floor.

It contains 77,000 square feet of floor space, 22,000 of which will be occupied by the American Radiator Company's executive offices and New York sales branch, including extensive showrooms on the ground floor. An interesting feature is that 90 per cent. of the floor space is within 25 feet of windows.

Ordinary clay brick dipped in manganese and burned, manufactured by the Fiske Brick Company of Pennsylvania, is used for the walls, while the selected buff brick employed to obtain the golden coping effects is made by the Fish Brick Sales Company of New York.

The American Radiator Company

(Continued on page 34)



Graphite

PUBLISHED BI-MONTHLY BY THE
JOSEPH DIXON CRUCIBLE CO.

AT JERSEY CITY, NEW JERSEY U. S. A.
*In the interests of Dixon's Graphite Pro-
ductions, including Crucibles, Lubricants,
Pencils, Paint, etc. Sent free upon request*

Vol. XXVI MARCH-APRIL, 1924 No. 2

Repair Those Fences

EVERY good cattleman knows the importance of keeping his fences in repair.

In the jargon of politics, every good ward heeler knows the importance of keeping his political fences in repair.

But not every friend seems to recognize the importance of keeping his friendship fences in repair.

Try this experiment. Make a list of your ten best friends and see if there are things that you can do to cement them stronger to you—or if there are things you are doing that are breaking down the fences.—
Personal Efficiency.



American Radiator Company's New Building

(Continued from page 33)

will occupy one of the stores, the 3rd and 4th and the 16th to the 23rd floor inclusive. It will install its latest type of boiler for coal fuel for the heating system. The exterior of the building will be treated with novel electrical illuminating effects for night display.

Raymond M. Hood, architect, who, associated with John M. Howells, took the first prize for the Chicago Tribune Building in the International Competition held last year, designed the building. Of its

unique features Mr. Hood says:—

"The radical departure from standard practice arose from a feeling that so many office buildings are monotonous if not ugly. Monotony and ugliness in office building seem to come from the fact that the windows are actually black holes, and the regular spacing of these black holes makes a building look like waffles or doormats hung up to dry. The solution to this problem lay in finding a color of wall that would tie together the black holes, and make them less apparent. But as the building progressed we found it struck a very cheerful note. The idea for gold trimming came next and caught the fancy of us all. Precedent, at least in Europe, pointed to other periods of architecture where black had been used effectively, particularly, for example, in the Grande Place of the Hotel de Ville, Brussels. In Pompeii, also and in France at the time of the Empire, whole rooms were done in black with only a slight relief of color.

"We felt that the old problem in office building design demanded a new solution and that just as other architects have broken away from conventional treatment in certain directions and raised the standard to higher levels, we might contribute a new plan of coloring which would make for progress."

The building was erected by the Hegeman-Harris Company, Inc., builders, and occupies a plot 77 feet front by 100 feet deep. It is estimated that the building, including land, when fully completed, will cost in the neighborhood of \$2,000,000.

All of the structural steel in this building is protected with Dixon's Silica-Graphite Paint.

DIXON'S 677

For Transmission and Differential Gears

- Makes gears run smoothly, sweetly, quietly.
- Permits gears to shift easily and silently, winter and summer.
- Cuts down power-loss in the gear-boxes.
- Lowers the cost of upkeep.

JOSEPH DIXON CRUCIBLE CO.

Jersey City, N. J.  Established 1827

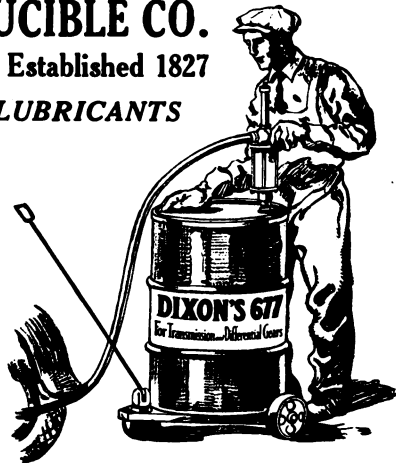
MAKERS OF QUALITY LUBRICANTS

*For Spur and Bevel Gears
Use Dixon's Gear Lubricant
No. 677*

*For Worm Drives Use Dixon's
Gear Oil No. 675*

*For Universal Joints Use
Dixon's Grease No. 672*

*For Grease Cups Use
Dixon's Cup Grease No. 3*







Fourth Annual Convention of the Southern Division

National Association of Stationers, Office Outfitters and Manufacturers
Tampa, Florida

(See double-page spread)

OUR Mr. L. J. Pues writes us enthusiastically concerning this Convention, which he attended as the representative of our Pencil Department.

The program is before us as we write, and this plus Mr. Pues' report convinces us that we missed something by our absence.

We see that the able and aggressive Hon. Ivan E. Allen, Atlanta, Georgia, President of the National Assn., delivered an address, "Past, Present and Future."

Mr. E. G. Harpold, of the Dameron - Pierson Company, New Orleans, Louisiana, spoke on "Location and Equipment of the Store."

Mr. Walter O. Foote, President, Foote and Davies Company, Atlanta, discussed "The Manufacturing of Stationery in the South."

Mr. T. Victor Barr, Brandon Printing Company, Nashville, Tenn., addressed the Convention on "Retail Credit and Collections."

The foregoing were on the first day's program. On the day following, these addresses were delivered:

"Salesmanship and Selling Methods as Applied to the Stationery Business," by Wm. H. Greenleaf, Boston, Mass., Manager Service Department, Carter's Ink Co., formerly Field Secretary of the National Association of Stationers, Office Outfitters and Manufacturers.

"The Pricing of Merchandise," by Victor Colomb, President Palfrey-Rodd-Pursell Co., New Orleans, La.

"The Value of Trade Papers to the Retailer," by J. E. Neary, New York City, Business Manager, Geyer Publications.

"Advertising," by S. Bloch, Tampa, Fla., Secretary Florida Office Supply Co.

"The Next Convention," by Ralph S. Bauer, Lynn, Mass., Member Executive Committee, Chairman Convention Committee and Past President of the National Association of Stationers, Office Outfitters and Manufacturers.

"The Building of a Store Organization," by Fletcher B. Gibbs, Chicago, Ill., General Manager of The National Assn. of Stationers, Office Outfitters and Manufacturers.

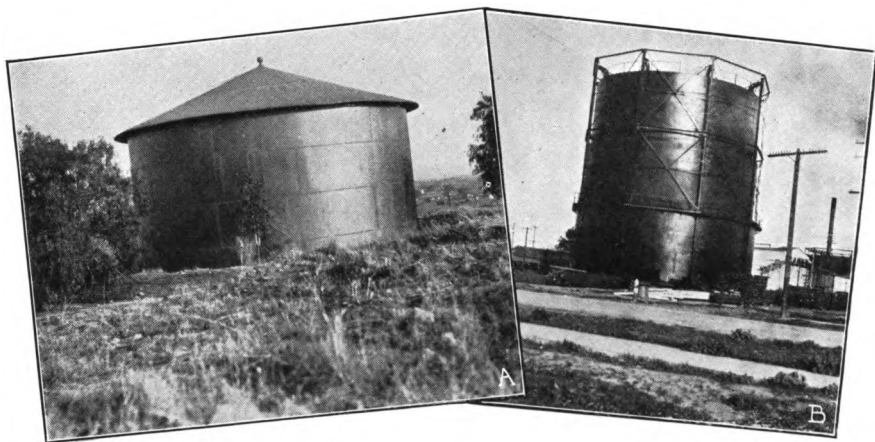
"Budgeting Sales and Expenses," by R. M. Pound, Charlotte, N. C., President Pound & Moore Co.

"Store Employees, Employment, Training and Welfare," by Chas. P. Garvin, Boston, Mass., of The F. S. Webster Company, Chairman of the Promotion Committee of the National Association of Stationers, Office Outfitters and Manufacturers.

"Stock and Purchase Records," by John M. Cooper, Atlanta, Ga., of the Foote & Davies Co.

On the evening of the first Convention day, there was a dinner and band concert for the members and their ladies at the Jewel Box Tea Garden, Tampa Bay Hotel Park, courtesy of the Tampa Board of Trade. Following this, the "Knights of the Grip" celebrated Traveling Men's Night in the Ball Room of the DeSoto Hotel.

After adjournment next day, a banquet was served at the Hillsboro Hotel, at which Mr. Chas. P. Garvin, Sales Manager of the F. S. Webster Company, was toastmaster.



Tanks and Holders in California

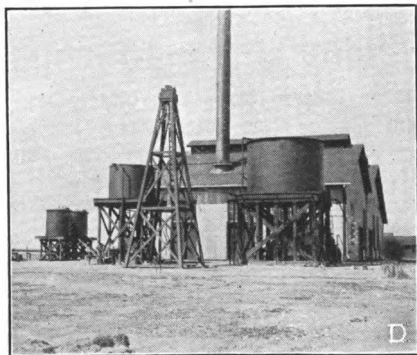
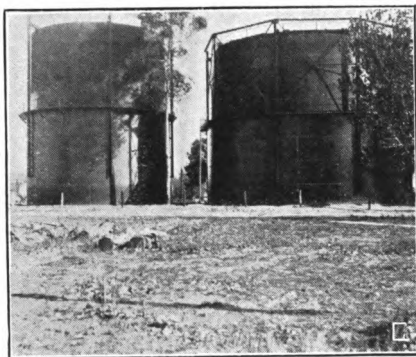
Protected with Dixon's
Silica - Graphite Paint

THE photos shown on this page illustrate a few of the many tanks and holders in California that are protected with Dixon's Paint. These structures are as follows:

- A—Water Tank, City of Porterville, Cal.
- B—Gas Holder, San Jouquin Light & Power Co., Merced, Cal.
- C—Gas Holders, San Jouquin Light & Power Co., Selma, Cal.
- D—Pump Station, Associated Pipe Line Co., Dow, Cal.

We are indebted to our Pacific Coast representative, Mr. Walter Shulman, for these photos as well as for many others. Mr. Shulman is quite adept with his Kodak and also in convincing Californians that Dixon's Silica-Graphite Paint is the best buy for a protective paint.

Long-lasting Dixon's Paint will prove to be the most economical when judged on a "cost per year of service" basis. Do not be misled into buying a paint that is low in price and also short in service.



"Guide Post"



T H E R E are three primary colors — or is it only two? Some experts say one thing, some another in this matter, being experts. Be which as it may, there are three colors in the "DUPLIGRAPH" Indelible line *primarily* designed

to make it easy for you to sign your letters with a smooth-flowing, vivid-colored lead.

Again we have this eternal matter of choice making for the variety that enlivens the race, but shortens the lives of factory superintendents.

We mean, of course, that one man should prefer the red "Dupligraph," No. 2076, while another should like the Blue "Dupligraph," No. 2077, and still another should say, "Make it any color so long as it's the Green 'Dupligraph,' No. 2078!"

There is much satisfaction to be had out of signing letters and making small notes and check marks with these fine pencils.

Mark the name well, now: "Dupligraph," it is: and then you'll tell the stationer's assistant, or the boss himself, for that matter, that it's to be the RED, the BLUE, or the GREEN.

When you strike a slippery road, don't jam on the brakes. Remember it's the steering that avoids the skid.—*The Spade*.

Dixon's Red Lead-Graphite Primer

AFTER exhaustive tests and experiments we have put on the market a product known as Dixon's Red Lead-Graphite Primer.

The pigment consists of silica-graphite, red lead and English oxide of iron. The vehicle is the best linseed oil obtainable. The primer will dry perfectly in 22 hours under normal conditions. It will cover approximately 400 square feet to the gallon on metal surfaces.

Dixon's Red Lead-Graphite Primer is superior to plain red lead paint as it does not "drag" and wear the brushes because of the flake-graphite in the pigment. It is strongly adhesive to metal and never becomes hard or brittle, and will not chip and scale off. It has greater covering power, and with all of its superior qualities is better and cheaper than red lead.

It fully meets the requirements of those who prefer a red lead paint for priming coats.

Dixon's Red Lead-Graphite Primer is put up in 5- and 10-gallon containers and also half-barrels and barrels.

Los Angeles, Calif.,

JOSEPH DIXON CRUCIBLE Co.

Dixon Automobile Lubricants were used by Sig. Haugdahl in his world record trials on Florida Beach and also in his overwhelming victories on the new Ascott Speedway when he lowered Ralph De Palma's world's mark over a second. Dixon's Lubricants were also used by Fred Leckliders who finished second to Haugdahl in world's championship race. Thirty-eight cars completed in race meet.

J. ALEX SLOAN.



ENGINEERS and drafts-
men find **Dixon's Eldorado**
a responsive medium in
freehand sketching.

SAMPLE OFFER

Write for full-length sam-
ples of "The master drawing
pencil" and of Dixon's
"BEST" Colored Pencils.
In their field, The "BEST"
Colored Pencils hold the
same position of supremacy
as Dixon's Eldorado.

. . . and its clear, clean
line saves both time and
poise when you are making
the working drawing.

**DIXON'S
ELDORADO**
"the master drawing pencil"

Joseph Dixon Crucible Co.

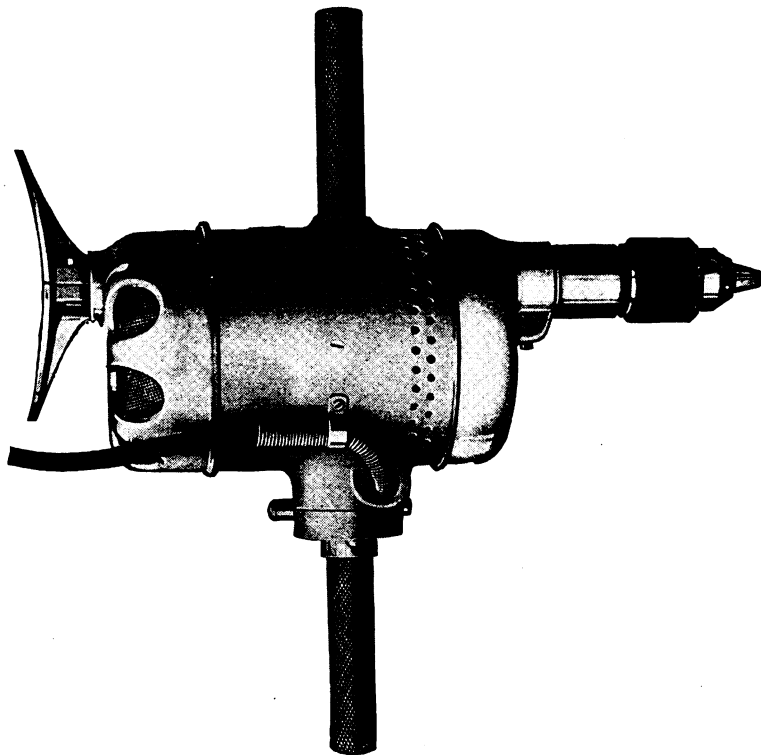
Pencil Dept. 190-J.



Jersey City, N. J., U.S.A.

Established 1827





Dixon's 677 Recommended for the Lubrication of Gillfillan Electric Drills

ABOVE is shown one of the portable electric drills manufactured by Gillfillan Bros., Inc., New York, Los Angeles, and Kansas City.

These tools are packed with Dixon's 677 when they leave the factory as Gillfillan Bros. have found that Dixon's 677 is the only lubricant that will give them satisfaction in their grinders and drills. Several kinds of lubricants have been tried, but No. 677 proved most satisfactory on account of the heat and the high speed at which they are run.

Tags are attached to each drill

and grinder giving instructions for lubrication and recommending the use of Dixon's 677 for this purpose.

Gillfillan Portable Electric Drills and Grinders are typical of the very latest developments in portable electric tools. They are of minimum weight consistent with strength and power and, where portability is a feature, the tools are housed in aluminum.

Dixon's 677 may also be used with equal success in various types of drills, electric and pneumatic, and it will last much longer than other lubricants.

DIXON CRUCIBLES

CRUCIBLE service and economy are direct results of proper care and handling. You will get out of a crucible what you put into it. Careful handling means longer service and more heats, while careless handling means fewer heats and more crucibles to buy.

Dixon Crucibles have built into them that quality which, if cared for properly, develops long life, economy and many heats.

Dixon Crucibles are made in all shapes and sizes, from the regular types for melting brass, etc., down through the Reservoir, Bottom-Pour, Tilting Furnace and other special shapes. Each form is standard in its line and is made with the experience of nearly a century back of it.

Send for Booklet No. 190-A
"Crucibles, their Care and Use."
It will show you how to get more
heats from any crucible.

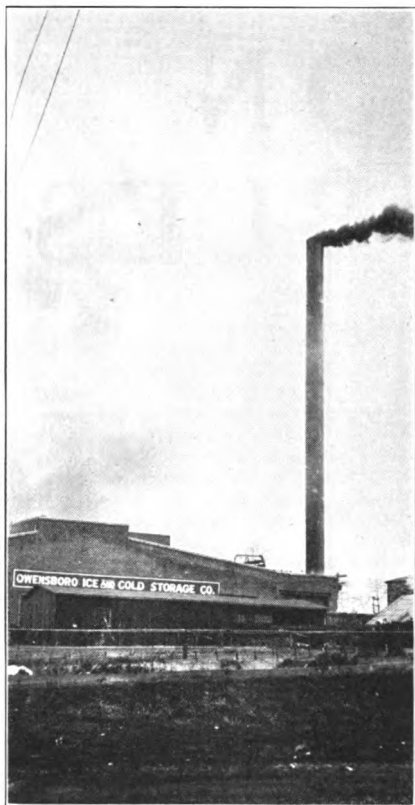
JOSEPH DIXON CRUCIBLE CO.

Jersey City, N. J.



Established 1827





Stack, Owensboro Ice & Cold Storage Co.
Owensboro, Ky.

THE above photo shows the stack of the Owensboro Ice & Cold Storage Co., Owensboro, Ky. It was erected by the Wright Machine Company of the same city.

This stack is five feet in diameter and one hundred feet high and made out of Amco Ingot iron plates 3-16 inch thick, reinforced with four 2-inch angles. The total weight is 14,000 pounds.

Dixon's Silica-Graphite Paint was used inside and outside. Mr. Chas. Akin, Chief Engineer of the Owens-

boro Ice & Cold Storage Company, says that he has used Dixon's Paint for a number of years and would not consider any other paint for smokestacks, or for interior metal work.

We are indebted to Mr. Jesse Gubbart of the Wright Machine Company for the photograph and information regarding this stack.

Dixon's Silica-Graphite Paint is unexcelled as a protective paint for stacks as it is better able to withstand the attacks of sulphurous gases which escape from a stack.

Our new booklet, "Paint the Smokestack," No. 190-B, is ready. A copy is yours for the asking and in it you will find many illustrations of well-known stacks protected with Dixon's Paint.



Charleston Consolidated Railway & Lighting Company

JOSEPH DIXON CRUCIBLE Co.,
Jersey City, N. J.

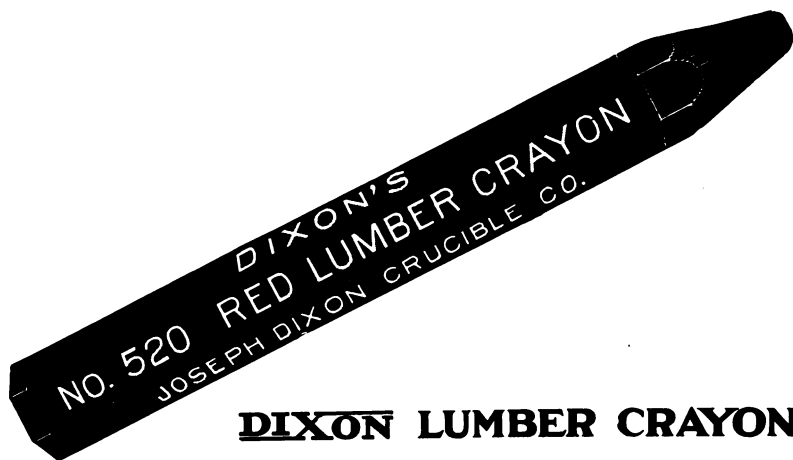
In reference to your letter of March 4, 1924, beg to advise that we are not in the market at this time for any kind of paint, but will advise you should we need any of your Dixon's Silica-Graphite Paint as I am familiar with this paint.

I have been using Dixon's Paint for thirty-three years and have always found that it gave the service as advertised and represented.

We are able to purchase Dixon's Silica-Graphite Paint locally through the firm of Cameron & Barkley Company and have been doing so for a number of years.

Thanking you for your courtesy in this matter,

(Signed) J. O. MOISSON,
Chief Engineer.



DIXON LUMBER CRAYONS

You'll praise them, too
(You probably do)

Made in an ample range of colors

Free samples on request



DIXON'S Graphite Cup Greases combine the superior lubricating qualities of the best mineral oils with the simplicity and economy of hard grease.

They are softer than the average cup grease, so begin to lubricate as soon as there is motion. Most greases do not begin to lubricate until after the parts are warmed up—that is they have to be thawed out by the frictional heat. Dixon's Cup Greases are all thawed out and ready to function—they flow with the revolving parts. They also keep the surfaces from metal contact.

Wherever possible to use cup grease around the plant—on pumps, engines, shafting and other machinery, Dixon's will give better lubrication at lower cost.

Write for Circular No. 190-R.

JOSEPH DIXON CRUCIBLE CO.

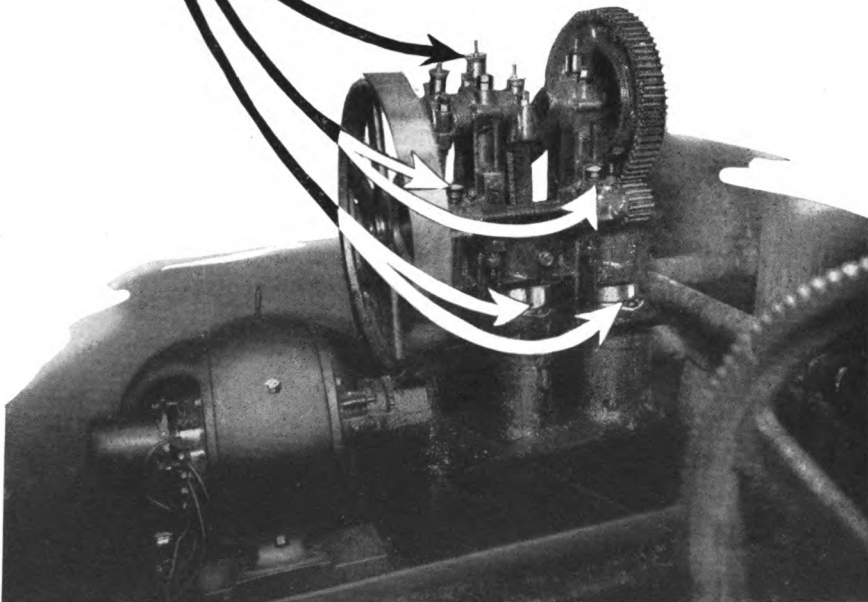
Jersey City, N. J.



Established 1827



Dixon's Graphite Cup Grease





Grand Trunk Railway Bridge

THE accompanying illustration shows the Grand Trunk Railway Bridge of the Canadian National Railways, between the cities of Lewiston and Auburn, Maine. This bridge was painted four years ago with Dixon's Silica-Graphite Paint, color black, which is giving excellent protection to the structural steel work.

The photographs of this bridge were recently taken, and they give one an idea of the severe conditions to which exposed structural steel work is subjected in New England.

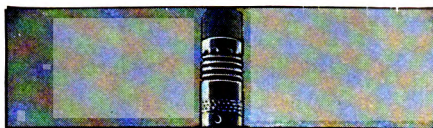
The excellent judgment of the Canadian National Railways in using Dixon's Paint for bridge work is clearly shown in the gratifying results obtained, which point out the great economy secured.

The Thief

WHOSE hand goes into your pocket when the snows and rains and darkness fall; when the dampness clings insidiously, when the winds pierce where no eye can see? You hope or think that all is well and safe, but you awaken to your loss and the new costs occasioned, with a feeling of panic. Who has thus been robbing you all winter? The Rust-Thief! Paint with DIXON'S SILICA - GRAPHITE PAINT and cast worry and costs away for many years—you can rely on Dixon-protection. Paint this Spring for the Rust-Thief has not passed you by.



A wise old owl lived in an oak,
The more he saw the less he spoke,
The less he spoke the more he heard;
Why can't we all be like that bird?



“My kind of a pencil”

“Soft, smooth lead that makes writing a pleasure. Strong, too, and long lasting. Even this pencil’s shape ‘pleases the fingers.’ I’ve never had a pencil that suited me so well. And yet it’s moderate in price.”

DIXON “TI-CON-DER-OGA” *The Business Pencil*

AT ALL

STATIONERS



Write for Sample

Write direct to us if your dealer does not have Dixon “Ti-con-der-oga” Pencils — enclose five cents — and we shall send you a full-length sample.

JOSEPH DIXON CRUCIBLE COMPANY
Pencil Dept. 8-J, Jersey City, N. J.

Fort Ticonderoga
1776



Graphite

VOL. XXVI

MAY-JUNE, 1924

NO. 3



JOSEPH DIXON CRUCIBLE CO.

ESTABLISHED
1827

JERSEY CITY, N. J., U. S. A.

INCORPORATED
1868



*Miners, Importers and Manufacturers of
Graphite, Plumbago, Black Lead*



OFFICERS

GEORGE T. SMITH, *President*

J. H. SCHERMERHORN, *Vice-President*

HARRY DAILEY, *Secretary*

WILLIAM KOESTER, *Treasurer*

JOHN I. McCOMB, *Assistant Secretary*

J. W. ROBOTOM, *Assistant Treasurer*

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GEORGE E. LONG

GEO. F. PERKINS

EDWARD L. YOUNG

J. H. SCHERMERHORN

HARRY DAILEY

ROBERT E. JENNINGS

PURCHASING AGENT

JOHN I. McCOMB

DISTRICT SALES OFFICES

New York, San Francisco, Chicago, Philadelphia, Boston, St. Louis, Buffalo

FOREIGN SALES REPRESENTATIVES

Pencil Department Products

Canada and Newfoundland

A. R. MACDOUGALL & Co., LTD.,
468 King St., West, Toronto, Ont.

Central and South America

Cuba and Porto Rico

NATIONAL PAPER & TYPE Co.,
32 Burling Slip, New York, N. Y.
Offices in Principal Cities

Europe, Africa, India and New Zealand

L. G. SLOAN, LTD.,
41, Kingsway, London, W.C. 2
Representatives in Principal Cities

Australia

WILLIAM LEWIS, LTD.,
Stafford House,
316 Pitt St., Sydney, Australia

MR. CHARLES BOTT
52-54 Bouverie St., Melbourne

MR. E. DARRAGH
119 Charlotte St., Brisbane

MR. REUBEN BYRNE
93 Grenfel St., Adelaide

MESSRS. A. W. LEANE & Co.,
14-16 Queen Street, Perth

Philippine Islands

PHILIPPINE EDUCATION Co., Escolta 34, Manila, P. I.

Graphite Products

WALWORTH INTERNATIONAL CO.,

44 Whitehall St., New York, N. Y.

WITH SALES OFFICES AT

Europe

Copenhagen
London
Milan

Australia

Sydney

Africa

Johannesburg

Asia

Calcutta

Shanghai

Latin-America

Havana, Cuba
Sao Paulo, Brazil
Mexico City, Mex.
Buenos Aires, Arg.
Santiago, Chile

Canadian Agents

CANADIAN ASBESTOS Co.,
Montreal, Quebec

Soerabaya

Graphite

A MAGAZINE PUBLISHED BY THE
JOSEPH DIXON CRUCIBLE COMPANY

AT JERSEY CITY, N. J.
U. S. A.

Volume XXVI

MAY-JUNE, 1924

Number 3

TIVOLI

ELDORADO Drawing by EARL HORTER on front cover

On the rock	Of Captives,
Over the gorge	Of wealth,
By the cataract of Tivoli	Of great names,
You stand!	Of mystic rites forgotten—
A ruin . . .	Abandoned to birds,
You hark back to times	Abandoned to storms,
When Roman armies	Slowly crumbling to dust:
Built roads to conquer the	But still gracing the ground
world . . .	And lending enchantment
But still you are a ruin . . .	To the scene
Tho with gorgeous memo-	Of your whilom grandeur,
ries . . .	Little circular Temple
Of Emperors, Consuls,	Of Hercules!
Courts,	

The advertisement displays a collection of Dixon's Eldorado Photogravures. On the left, three framed artworks are shown: a tall, slender tower (top), a classical building with columns (middle), and a landscape with a large building (bottom). To the right of these are three small, dark rectangular boxes, each featuring the text "DIXON'S ELDORADO" and "The master drawing process!".

On the right side of the advertisement, a stack of Dixon's Eldorado product boxes is shown. The boxes are labeled "DIXON'S ELDORADO" and "HB ELDORADO HB". The text "The master drawing process!" is also visible on the boxes. The boxes are arranged in a way that shows their thickness and the quality of the material.

New Dixon Eldorado Photogravures

Three Beautiful Photogravures for Window Decoration Advertising Dixon's Eldorado

"The Master Drawing Pencil"

(See illustration on page 52)

IF you've ever read Charles Lamb's essay on "Imperfect Sympathies" (and if you haven't, please do so) you will know that this must be in the writer's mind when he likens the letters below to the word of a man belonging to the Society of Friends—popularly called Quakers.

For these men happen to be men of their word and sophisticated in advertising art.

One, Mr. Camille de Veze, is the boss of the great De Vinne Printery—and not given to overpraise. Read his letter.

"I have been re-admiring those photogravures reproduced from Horter's pencil drawings. They make me envious and wish Fate had willed that instead of being a printer I had become an artist—so I might use the 'Eldorado Drawing' pencils.

"The reproductions are exquisite, and as to their advertising value there is no question in my mind. They *must* appeal to the very ones who would be interested in the pencils you desire to bring to their attention.

"The reserve shown in the modest way you tell about the pencils used in producing the originals must appeal to the clientele you desire to reach—for it is refinement and not noise.

"Hoping your experiment will be a financial success as well as an artistic one, I remain,

Cordially yours,
C. DE VEZE"

The other man of judgment and reticence is Mr. George W. Cecil of the Editorial Department of N. W. Ayer & Son, the great advertising house. What he says is, as usual, very much to the point.

"I returned this morning from a little trip and found the three Horter reproductions on my desk.

"I want to congratulate you, SIR, on a mighty fine job. I don't believe I have ever seen pencil lines more faithfully reproduced.

"I showed the reproductions to the folks in our Art Bureau and I've been commissioned to order two sets.

"Please understand that one of the conditions of this order is that you *send a bill with them*.

Very truly yours,
GEORGE W. CECIL,
For N. W. AYER & SON"

We might add that on seeing these photogravures a good many people thus far have wanted to buy them for classroom and window decoration. But they are not for sale. They have been purchased to help decorate the stores and windows of Dixon customers who stock Dixon's ELDERADO—"the master drawing pencil."

We have made up a little display to suggest to window dressers how simply and effectively and quickly these photogravures can be grouped. Only a few boxes of Dixon's ELDERADO—"the master drawing pencil" are needed in a window to complete the tie-up.

Dealers are urged to mail their orders for these photogravure sets to us at once, or to give them to Dixon salesmen as they make their rounds.



Mr. W. J. Carroll, the subject of this little sketch, is not the only Knight of the Road who has a winning smile. But he has a smile—the Carroll smile, as you might say—and he is winning. He has been a winner as a salesman for years—and he continues to be in his new position with the Dixon Pencil Line.

The word salesman is used advisedly. He is not only or merely a representative creating atmosphere and good will for his house, important as these are, but a salesman creating business by sales ability.

So Mr. Carroll, then, is a salesman: first, last and all the time.

He has not worked many months for Dixon, but he has taken many orders. And his customers seem to

like to go out of their way to show that they like him in other ways than by giving him their orders. For they write us telling us what a good fellow he is, how they like his style: in short, that they want to do business with him.

Mr. Carroll is covering Southern Indiana, Kentucky, Tennessee and parts of Georgia and Alabama for Dixon. Formerly, he represented S. S. Stafford, Inc., in some of the territory he now works. He has a thorough knowledge of the stationery business, is a hard worker: and his success is no surprise to those who know him well.



New Dixon Pencil Catalog

AS we go to press, we are informed by our printer that the new Dixon Pencil Catalog may be expected by us any day. It should be available for distribution, unless all signs fail, by the early part of June.

Making a catalog may be divided into three prayerful stages. In the first stage, you make up your mind that a new edition is necessary and decide on the size of the edition and write the copy and arrange the layout and choose the articles to be illustrated and make up your mind as to how they are to be illustrated. In the second stage, you battle with the artist, the photographer and the engraver. Finally, the printer and the binder have their innings. And then when the presses are at work, for a brief span, you think that you are all through with it, but soon you commence to worry about what the thing will look like in the end. About that time many times a week you are asked the question—"When will the new catalog be ready?" And long before it is ready, your

(Continued on page 67)



Winner of Third Prize in Industrial Parade

Industrial Week in Jersey City

FROM May 17th to 24th, the manufacturers and merchants of Jersey City united, under the leadership of the Chamber of Commerce, in a splendid Industrial Exposition in the Fourth Regiment Armory.

The Joseph Dixon Crucible Company had one of the booths, which was decorated to show its important products. These included pencils, crucibles, graphite lubricants and graphite paint.

Preceding the opening of the Exposition, there was a great parade of motor and horse trucks through the business streets of Jersey City. Crowds lined the curbstones and much interest was manifested in the

many and various decorated trucks and floats which showed Jersey City's manufacturers and distributors to good advantage.

The whole affair was voted a great success by all those who participated, among them Jersey City's leading banks, manufacturers and merchants.

Pride in one's city is a good healthy pride. Such expositions tend to raise the city in the respect of its own citizens. Hence, they tend toward the production of a healthy city *esprit de corps*. So they are worthy of the support of all those who believe, as we do, in honesty and decency in the conduct of business.

Sermons to Salesmen

The Beaten Path

THE golden sun rests an instant on the blue wall of the Alleghenies, then drops, leaving an orange glow in the western sky. The West is advertising again! The West always puts on a good show at a popular hour. The colors of its settings are not to be resisted by mortal man, as westward the commercial traveler wends his way. His may be a pioneering spirit, responding to the same westward urge that drew the red man to the buffalo herds of the western plains, and the white man to conquer the wilderness; but the wilderness, being more or less conquered, our modern traveling man is like as not to wend his particular way via the Pennsylvania.

He truly follows the beaten path. The moccasined Indian, following the setting sun, trailed the streams, the valleys, and the notches to find the easiest way through the mountain barrier. The white pioneer blazed the trail, and widened it to a road for his covered wagons: and then the railroads followed and paralleled the early trails, but it is still the old beaten path that gets the heavy traffic.

So, in marketing and merchandising, the pioneer salesman or inventor-salesman has the golden vision and strikes out for the new markets. He ventures to the right, to the left, and always ahead, until he finds the way across the barriers of doubt, or indifference, and of ignorance, to individual acceptance of his product. The blazed trail of the pioneer salesman is widened by his sturdy and determined followers

until Advertising is called upon to still further broaden it into general acceptance and popularity.

It is then that the heavy traffic sets in. The beaten path and the opened road may lack some spice of adventure, but over it many forces may work together to carry the weight and the volume, that all may have the greatest comfort with the least laborious effort.

May we continue the parallel? That, while pioneering is a glorious adventure and a laudable enterprise, beating the bushes beside the road and wandering through the wilderness are not necessarily pioneering. Isn't there often much of beating the bushes and wandering in circles in the wilderness in a salesman's or a merchant's misdirected activities? Isn't there more to be accomplished by lending effort in the main stream of traffic where advertising and all merchandising forces join together in carrying the greatest load with the least effort?

The merchant with the "no-name" or private-brand disguised product—isn't he beating the bushes with a pack on his back when he might be directing a varied stream of volume traffic of standard merchandise on the main line?

The manufacturer's salesman—isn't he engaged in a futile beating of the bushes when he peddles first one item and then another to suit the passing whims of every customer when he should be marshalling his customers in the main procession where they might travel comfortably toward their golden oppor-

(Continued on Page 64)

DIXON
"TI-CON-DER-OGA"
A really fine School pencil

*There's a guarantee of
good handwriting in
every one of its leads.*

Ask your School Supply dealer



Fort Ticonderoga in 1776

Graphite

PUBLISHED BI-MONTHLY BY THE
JOSEPH DIXON CRUCIBLE CO.

AT JERSEY CITY, NEW JERSEY, U. S. A.

In the interests of Dixon's Graphite Productions, including Crucibles, Lubricants, Pencils, Paint, etc. Sent free upon request

Vol. XXVI MAY-JUNE, 1924 No. 3

On Sharpening a Pencil

THIS is one of the little things most of us have never been trained to do right. And yet it is such a weighty little matter to know all about, that we think the school or the home should make it a point to train the youngsters to handle right.

We are taught how to handle our knives and forks and given other seemingly trivial talks in table manners at home.

And at school we learn about a thousand and one small things, and afterwards do very well by forgetting them—but no one teaches anyone how to sharpen a lead pencil.

So that as the matter stands, we learn how to sharpen a lead pencil only after we have passed through the early learning stages, and only after we have begun to take lead pencils and lead pencil sharpening for granted.

As makers of lead pencils, we desire very gently to bring this matter to the attention OF ALL CONCERNED.

And as the first step in this campaign, we offer to pencil users a copy of a little article which appeared in Geyer's Stationer.

If you want to be told something that you ought to know about pencils and pencil sharpeners, write to us for this little article which we

will gladly send you. Whether you buy or sell lead pencils or lead pencil sharpeners, this article will be of service to you.



Dialog

About as it is running in stationery stores nowadays

Customer: Is that pencil with the fine American name really a fine pencil, like the ads say?

Clerk: You mean Dixon's "Ticonderoga?"

Customer: Yes, that's the one. They say it has a peculiar shape to it.

Clerk: Rounded edges—feel them—makes the pencil sort of "fit into the fingers."

Customer: They say it's "pleasing to the fingers," don't they?

Clerk: Yes; and now another point is being brought out.

Customer: Well—and what's that? Some new improvement, I guess.

Clerk: I think it's about the only thing that counts about a lead pencil anyway. I mean the lead.

Customer (laughs): Sure—but every lead pencil must have a lead, you know.

Clerk (grins): But no lead pencil has ever had such a lead as this new Ticonderoga lead—at least, no pencil of this particular kind.

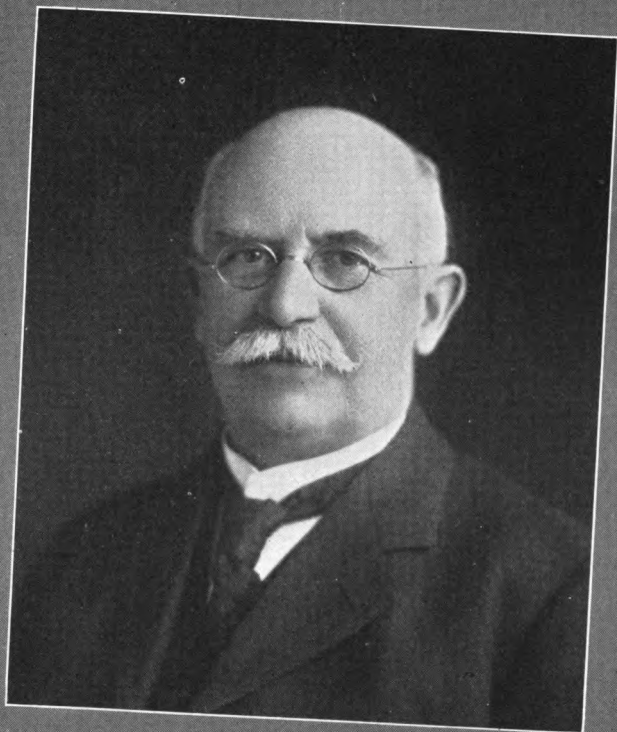
Customer (makes some scribble marks, writes his name): Now I know why they're calling it "the business pencil." That's a lead for every business. It's so smooth you've got to like it.

Clerk: I recommend it now to all pencil buyers—it makes my sales grow.

Customer: I'll put this one in my pocket. Better include a gross with the other stuff I just ordered.

Clerk: Thanks—it's a good buy.

Customer: Yes—good-bye.



GEORGE EDWARD LONG

BORN MARCH 25TH, 1850 DIED MAY 21ST, 1924

A FAITHFUL SERVICE OF 47 YEARS WITH THE
JOSEPH DIXON CRUCIBLE COMPANY
MAY 10TH, 1877 TO MAY 21ST, 1924

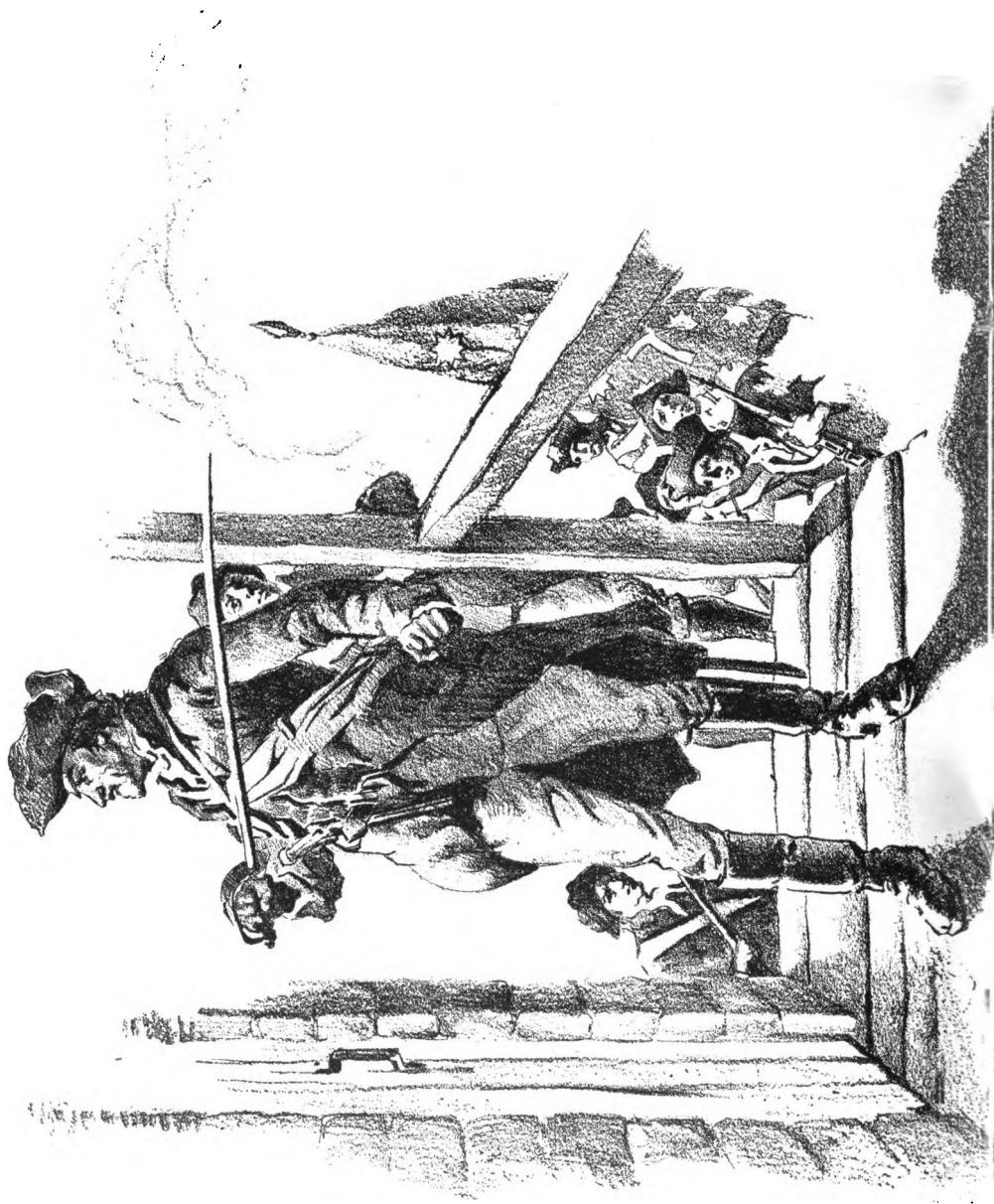
SECRETARY—APRIL 20TH, 1891 TO MAY 31ST, 1907

TREASURER—MAY 31ST, 1907 TO OCTOBER 21ST, 1912

VICE PRESIDENT—OCTOBER 21ST, 1912 TO APRIL 19TH, 1920

DIRECTOR—JANUARY 20TH, 1902 TO MAY 21ST, 1924

FOUNDER OF "GRAPHITE" DECEMBER, 1898



Ethan Allen at
Fort Ticonderoga,
May 10, 1776

The Knock on the Door!

"Ticonderoga" advertising is knocking at the door—loudly, insistently, in great national publications; in attractive, forceful posters; in comprehensive mailing campaigns—in all the many time-tested ways to make your customers know and call for

Have you seen the new
1396 "Ticonderoga"
Display? It ties up
your stock with our
national advertising.

*Send for Circular
in Colors*

DIXON
"TI-CON-DER-OGA"
The Business Pencil

Joseph Dixon Crucible Company

Pencil Department

Jersey City

New Jersey





Dixon at the Informashow in Boston

May 20-23, 1924

OUR Mr. C. A. Orth, who is the Dixon Pencil Representative in the Middle West, has been in the office for a few days and while here, he has been telling us all about the Purchasing Agents' Convention which has just been held in Boston. At least, he has been telling us about that part of it in which Dixon took a prominent part—namely the Informashow.

The Informashow is the commercial exhibit which is conducted in connection with the Annual Convention of the Purchasing Agents' Association.

It has been getting better and better from year to year and we

have never regretted being a pioneer exhibitor in it.

At the top of the page we display a reproduction of a photograph of the Dixon booth.

Mr. Orth tells us that this exhibit was the center of interest all during the Show and that purchasing agents greatly admired it.

Naturally, he goes on to say that the outstanding features of our efforts were the famous Dixon Pencils, ELDORADO and Ticonderoga. But he does not stop at that, and he goes on to say that our No. 786 crayon with a No. 597 holder was a very real hit with the purchasing

(Continued on page 68)

DIXON'S 677

For Transmissions and Differentials



Dixon's 677 may be obtained in steel drums with pump, providing a quick, clean means of lubricating gear-boxes. A necessity in every garage and service station. Write for quotations.

Two or more competing cars may be so nearly equal that long arguments fail to reveal any decisive difference.

Proper lubrication will reveal and prove the difference because it will make a car out-serve and out-wear its competitor by a very wide margin.

Dixon's 677 will meet fully the most exacting specifications and requirements for gear box lubrication.

*Try it
and be convinced*

JOSEPH DIXON CRUCIBLE COMPANY
JERSEY CITY, N. J.



Established 1827

Makers of Quality Lubricants



THE Guide Post is not supposed to show the way the wind is blowing, but the way the road is winding. On the other hand, the weather-vane might be called "the Guide Post of the air." So for this once we shall usurp the function of this

aerial pilot by telling you how the wind is blowing as to pencils.

The wind is blowing TI-CONDEROGA-wards, if you please. It is blowing a good, steady pace, and the good pencil Ticonderoga, before its tremendous urge, is gathering way at a great rate.

What has created this wind?

No seaman could answer such a question as applied to the ordinary sort of blast—nor landsman either. But we know what makes the wind blow for Ticonderoga.

We have been watching it gather force: we have been about our business of making such a wind.

Well, then, first of all, we are led to believe that the new lead we have been using in Ticonderoga has been creating a wind in its favor. No such lead has ever before been offered in a rubber-tipped pencil at the price.

Be not blasé.

Whether you have heard similar sounds before now or not: take nothing for granted.

Try this lead, oh Distributor of

Lead Pencils: try it yourself, on yourself. And be wise in season!

And the next thing that has been raising the wind for Ticonderoga is the Ticonderoga window-advertising. It strikes home. And your window-dresser can make a ten-strike with it.

Then, the *Saturday Evening Post* and the *American Magazine* have been carrying for months "Ti" ads with business-creating power in them.

And we have been able through increased output to deliver "Ti" pencils on the nail.

So, you see, the Trade has been getting a superior article wanted by their customers at a moderate price *on Time*.

These are the wind-makers for "Ticonderoga" sales.

And they are likely to continue for a long while to make Aeolus "crack his cheeks" with lusty blowing!



Sermons to Salesmen

The Beaten Path

(Continued from Page 56)

tunity for profit on volume on the main highway of standard acceptable merchandise?

Indeed, many things and multiplied powers are added to the salesman who will keep before him the vision of his business objective and strive along the beaten path in harmony with his house policies, his advertising support, and his customers' largest interest.



Lie-ability is liability.



Short points mean long leads.



The Standard Printing & Publishing Co.

WE are pleased very much indeed to have a letter from our Mr. E. N. Detrich about the Standard Printing and Publishing Company of Huntington, West Virginia. In Mr. Detrich's letter he quotes Mr. D. W. Frazier, Manager of the stationery store of this concern.

Mr. Frazier writes that Mr. W. W. McCue is President of the company, which has one of the largest printing plants in West Virginia. He goes on to say that besides straight printing, they also do lithographing.

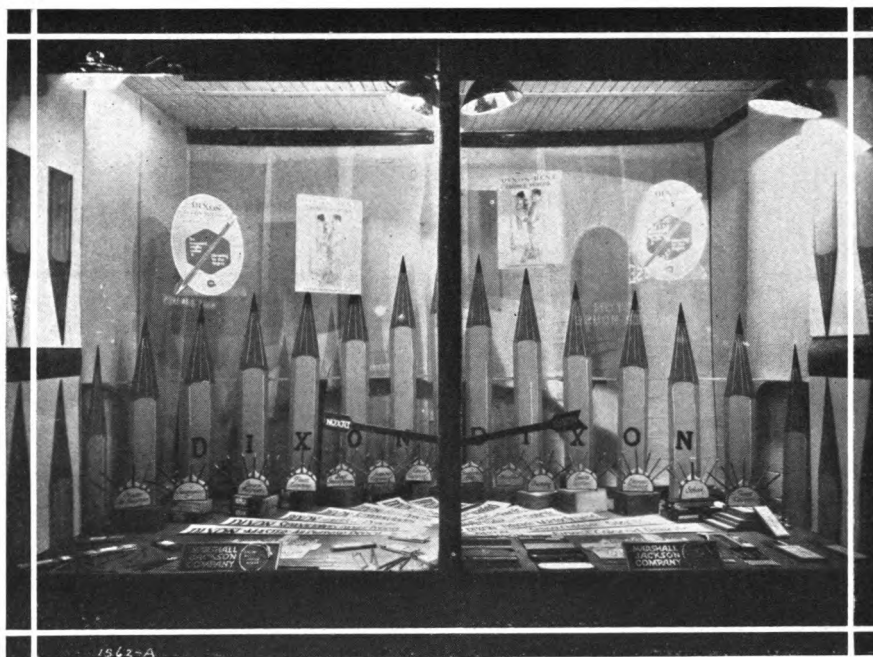
The store department, which

Mr. Frazier has charge of, has been growing steadily for the past five years.

The Standard organization covers Southern West Virginia, Eastern Kentucky and part of Western Virginia.

Naturally, this organization is a strong Dixon booster, for it is their experience that the Dixon Line generally sells better than any other.

The tasty window which we reproduce was dressed by a young man in the organization, by name Mr. Harlan Johnson, from whom good things like this are always to be expected.



Window, Marshall-Jackson Co., Chicago, Ill., During Dixon Pencil Fair

Dixon Pencil Fair in the Store of The Marshall-Jackson Company

Chicago, Illinois

ON this page and the next are reproductions, first, of the interior of Marshall-Jackson Company store recently when the Dixon Pencil Fair was in full blast, and on the other side, a reproduction of the very striking window which was designed and installed by the window dresser of the Marshall-Jackson Company at that time.

Our Mr. Charles P. Mueller is to be greatly commended for his enterprise in arranging this display and for his faithful attendance during the Exhibit.

The kindness of the Marshall-Jackson Company in co-operating with us and the enthusiasm and

good will of their employees made the affair the great success that it undoubtedly was.

Mr. Mueller's Dixon assistant while the Pencil Fair was on at the Marshall-Jackson Company was a new man to the Dixon organization, Mr. L. G. Decker, who acquitted himself very creditably indeed.

Before we go any further, we think we should make it clear that the idea of the Fair originated in the mind of Mr. Louis Marshall of the Marshall-Jackson Company. We thought it a very ingenious one and well worth backing up. The results proved that Mr. Marshall's idea was indeed sound. These results



Interior of Store, Marshall-Jackson Co.

took the form of greatly increased sales of Dixon Pencils to buyers of all kinds—that is to say, to quantity buyers, as well as to single pencil buyers.

Not only so—but the Marshall-Jackson organization now has a better grasp of selling ideas as applied to the Dixon Pencil Line than ever before.

Both Mr. Mueller and Mr. Decker worked side by side with them the entire week and their contact was with the entire organization of this aggressive stationery house. Both inside and outside salesmen got into the game in good shape and all from officials down to the office boy know the Dixon Line more thoroughly than ever before.

This is a very practical way of instructing the salesmen of a large stationery house in the various

details of selling an important line to users.

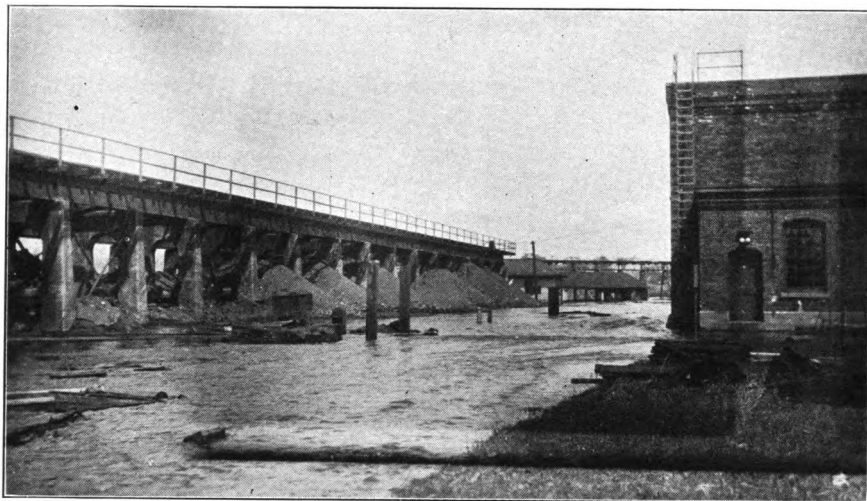
We congratulate Mr. Louis Marshall. Not only was his idea proved by experience to be a good one, but the same experience proved the great degree of enthusiasm and co-operation which his splendid organization is capable of.

New Dixon Pencil Catalog

(Continued from page 54)

reputation as a man of veracity is absolutely blasted and you feel that at any time you may be publicly welcomed into the ranks of the Ananias Club.

But all is forgotten if the book is a good book. Up to this point, we are convinced that it will be a good book—but we will be in a better position at the next issue of GRAPHITE to say more on that point.



Orono Pulp & Paper Co. Orono, Me.

THE accompanying illustration shows a section of the well-constructed coal trestle work of the Orono Pulp & Paper Company, where Dixon's Silica-Graphite Paint is giving excellent service.

This paint is particularly appreciated by large concerns having exterior metal and woodwork requiring protection, and in many instances has paid for itself many times on account of the long service it gives.

Dixon's Silica-Graphite Paint has long been recognized as a long-service paint. It is made in First Quality only and its reputation firmly established as the best protection for exposed metal or wood work.

We have service records in many diversified lines of industry showing service of from five to ten years. If interested, tell us your needs and we can reduce your painting costs materially.

Graphite for Special Purposes

OUR knowledge of graphite deposits is world wide. We use all forms and grades of graphites and can prepare graphite for every conceivable use. Some of the special purposes for which graphite is used are:

Glazing gun and blasting powder; polishing shot; coating rubber and woven packings; making stove polish, paint, motor brushes, flashlight batteries; jointing electric furnace electrodes; and all kinds of miscellaneous lubrication.

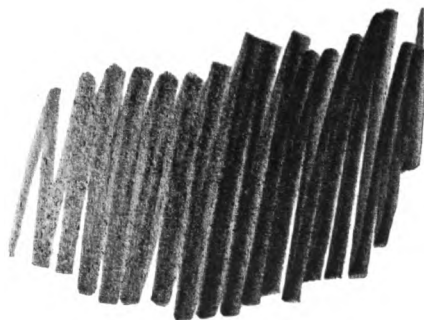
Dixon at the Informashow

(Continued from page 62)

agents because it was appreciated by them as an efficient checking crayon for desk use. This is a tip to purchasing agents who were not in attendance at the show.

Besides Dixon Pencil Products, the Dixon Booth advertised Silica-Graphite Paint, Dixon Graphite Lubricants and Dixon Crucibles.

D I X O N ' S E L D O R A D O
"The master drawing pencil"



THE responsiveness of a pencil emphasizes its value as a medium. Even in the most rapid sketch, Dixon's Eldorado runs the gamut from black to gray—no matter how delicate the line or subject. *Write for samples.*

JOSEPH DIXON CRUCIBLE CO.

PENCIL DEPT.

JERSEY CITY, N. J.

Canadian Distributors: A. R. MacDougall & Co., Limited, Toronto

**R. F. WARE
CONTRACTOR**

OFFICE AND PLANT
2146 EAST 38TH STREET
PHONE SOUTH 3076
LOS ANGELES, CALIFORNIA

April 11, 1924

The Joseph Dixon Crucible Company
Jersey City, New Jersey

Gentlemen:

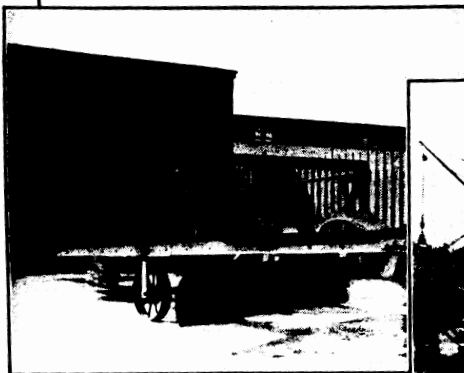
Four years ago when my Los Angeles plant was erected, Dixon's silica-graphite paint, green color, was specified by one of the leading local architects, and it has stood up so well that I did not hesitate in selecting this same paint for my field equipment, including excavators, backfillers, trailers, graders, trucks, etc., as this equipment is exposed to all kinds of weather.

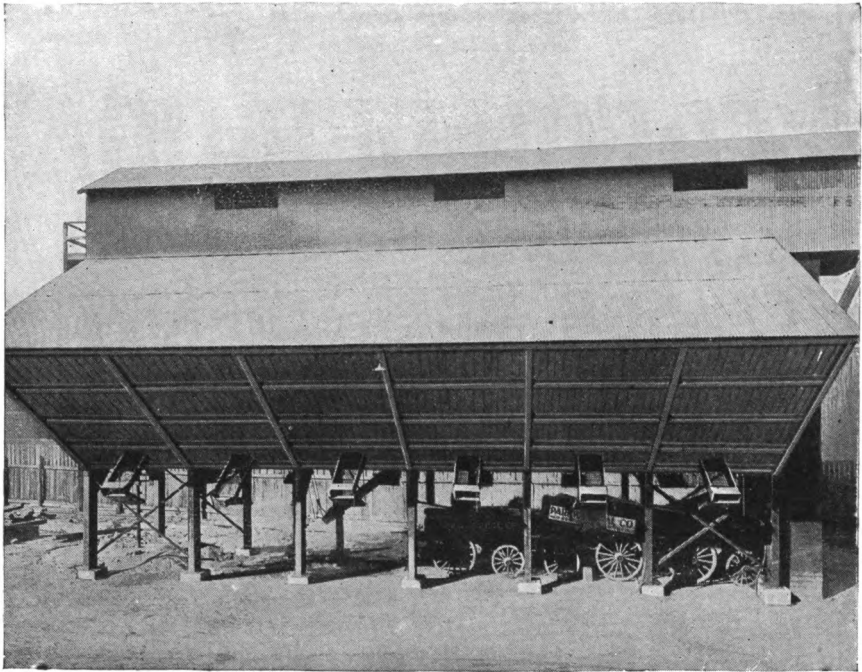
Dixon's lubricants are also used in the above equipment and I recommend them for the best results.

Very truly yours,

R. F. Ware

P.S. I am enclosing several pictures which might be of interest to you which you are privileged to use.





Specialty "Aero-Bin"—a new and improved type of coal pocket for the overhead storage of coal—designed and built by the Specialty Engineering Company, Allegheny and Trenton Aves., Philadelphia, Pa.

Aero-Bin, Parkway Coal Co.

Philadelphia, Pa.

"SPECIALTY Aero-Bin" is an improved type of coal pocket for the overhead storage of coal, designed and built by the Specialty Engineering Company of Philadelphia. The one illustrated above is in the retail coal yard of the Parkway Coal Company, Philadelphia.

Probably no single item in the equipment for retail coal yards has received less attention or improvement in recent years than the design and construction of coal pockets or elevated storage bins.

This particular "Aero-Bin" has

been developed to meet the requirements of both large and small yards and is built in standard size units and therefore adaptable to any yard layout.

The construction of the Aero-Bin is such that all coal is in contact with timber, which reduces breakage. The coal load is carried on structural steel members. These steel members are subjected to deteriorating influences of the weather and also wet coal. To protect the steel framework of the Aero-Bin, Dixon's Silica-Graphite Paint has been used.

DIXON

“TI-CON-DER-OGA”

The Business Pencil
Sold by all Stationers



Bill—“There it is, Will! Dixon Ti-con-der-oga! The smoothest writing pencil ever made for business men. Ever tried it?”

Will—“I’ve got one in my pocket right now. Suits me fine! I’ll bet there never was so fine a lead in a popular-priced pencil!”

Send 5c for Sample

JOSEPH DIXON CRUCIBLE CO.

Pencil Dept. 190-J



JERSEY CITY, N. J.

Graphite

VOL XXVI

JULY-AUGUST, 1924

NO. 4

*Reproduction of drawing made
with Dixon's "ELDORADO"
— the master drawing pencil*



JOSEPH DIXON CRUCIBLE CO.

ESTABLISHED
1827

JERSEY CITY, N. J., U. S. A.

INCORPORATED
1868



*Miners, Importers and Manufacturers of
Graphite, Plumbago, Black Lead*



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PURCHASING AGENT

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DISTRICT SALES OFFICES

New York, San Francisco, Chicago, Philadelphia, Boston, St. Louis, Buffalo

FOREIGN SALES REPRESENTATIVES

Pencil Department Products

Canada and Newfoundland

A. R. MacDOUGALL & Co., LTD.,
468 King St., West, Toronto, Ont.

Central and South America

Cuba and Porto Rico

NATIONAL PAPER & TYPE Co.,
32 Burling Slip, New York, N. Y.
Offices in Principal Cities

Europe, Africa, India and New Zealand

L. G. SLOAN, LTD.,
41, Kingsway, London, W.C. 2
Representatives in Principal Cities

Australia

WILLIAM LEWIS, LTD.,
Stafford House,
316 Pitt St., Sydney, Australia

MR. CHARLES BOTT
52-54 Bouverie St., Melbourne

MR. E. DARRAGH
119 Charlotte St., Brisbane

MR. REUBEN BYRNE
93 Grenfel St., Adelaide

MESSRS. A. W. LEANE & Co.,
14-16 Queen Street. Perth

Philippine Islands

PHILIPPINE EDUCATION Co., Escolta 34, Manila, P. I.

Graphite Products

WALWORTH INTERNATIONAL Co.,

44 Whitehall St., New York, N. Y.

WITH SALES OFFICES AT

Europe

Copenhagen
London
Milan

Australia

Sydney
Africa
Johannesburg

Asia

Calcutta Shanghai

Latin-America

Havana, Cuba Sao Paulo, Brazil
Mexico City, Mex. Buenos Aires, Arg.
Santiago, Chile

Canadian Agents

CANADIAN ASBESTOS Co.,
Montreal, Quebec

Soerabaya

Graphite

A MAGAZINE PUBLISHED BY THE
JOSEPH DIXON CRUCIBLE COMPANY

AT JERSEY CITY, N. J.
U. S. A.

Volume XXVI

JULY-AUGUST, 1924

Number 4

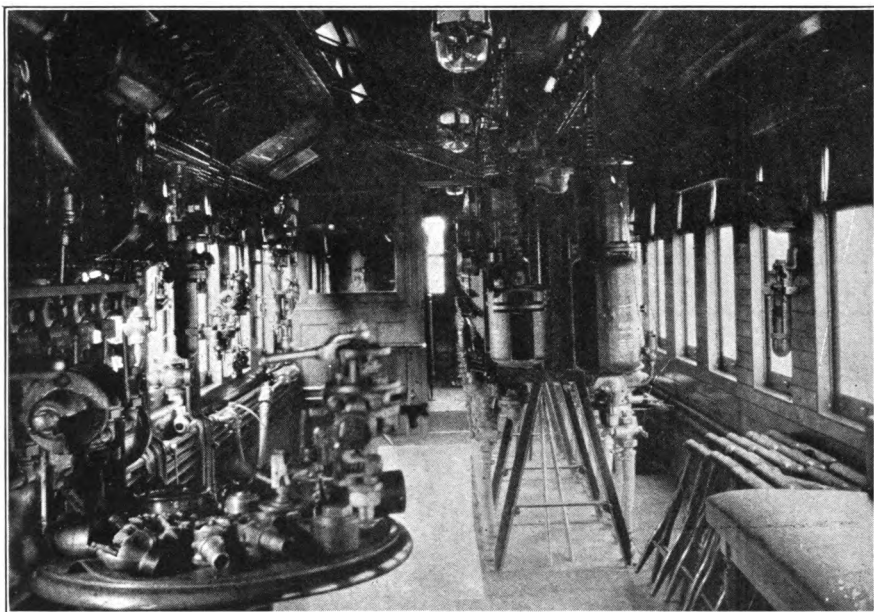
IMPORTANT NOTICE!

IT is our earnest desire to regularly place in the hands of every person or company who uses, sells, or is otherwise interested in Dixon's Products, our house magazine, GRAPHITE.

We kindly ask, however, that these persons, or companies, now receiving GRAPHITE advise us on the enclosed postal whether or not they wish to continue to receive our house magazine. Any change in name or address should also be properly noted on this card.

Will you, therefore, please give this matter your *immediate* attention? Fill in the postal and mail it at once.

Your name may be removed from the mailing list unless you notify us to continue.



Air-Brake Instruction Car

ALL of the larger railroads maintain air-brake instruction cars, such as illustrated above, and send it with instructors to various parts of their line.

The purpose is to thoroughly acquaint and educate all those who have contact with the air-brake apparatus with its construction, maintenance and proper application.

But in addition to skill on the part of the engineer there must also be perfect coordination between the working parts of the air-brake system. There is some very delicate and carefully adjusted mechanism in the air-brake system and great credit is due those who inspect, adjust and repair these parts.

In fact, the air-brake system is a study in itself and for this reason the railroads maintain the air-brake instruction cars.

The best lubrication possible is

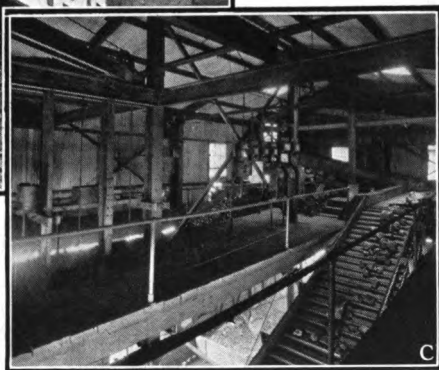
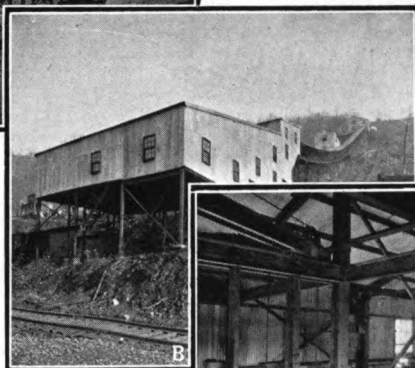
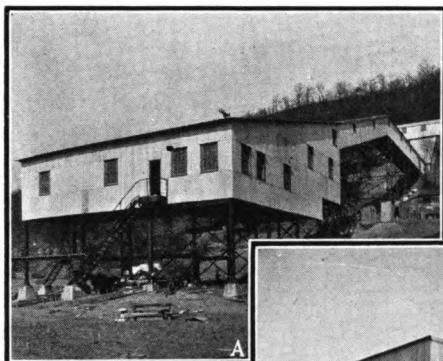
necessary on all of this mechanism and many prominent railroads have adopted Dixon's Brake Cylinder Lubricant as standard.

It is a compound of the best base and oils obtainable, with the correct amount of finely pulverized flake lubricating graphite and represents the results of long experience with lubricants.

Dixon's Brake Cylinder Lubricant aids the moving parts of the system to respond smoothly and accurately to all variations of air pressure. It effectively protects the metal surfaces against the action of moisture. With its use packing leathers or cups do not become porous as the original filler is retained. Equally as good for composition packing cups.

As an all-year-round lubricant it is unexcelled, for its consistency changes but slightly from summer's

(Continued on page 92)



Paint Protection for Coal Tipples

PROPER paint protection against corrosion for tipples, breakers, etc., is a matter of vital importance. Dixon's Silica-Graphite Paint has thoroughly established its reputation in the coal field as a long service paint.

The above photos show coal tipples designed and erected by the Fairmont Mining Co., Fairmont, W. Va.; all the steel fabricated and the machinery manufactured by the same company.

The name and location of these tipples are as follows:

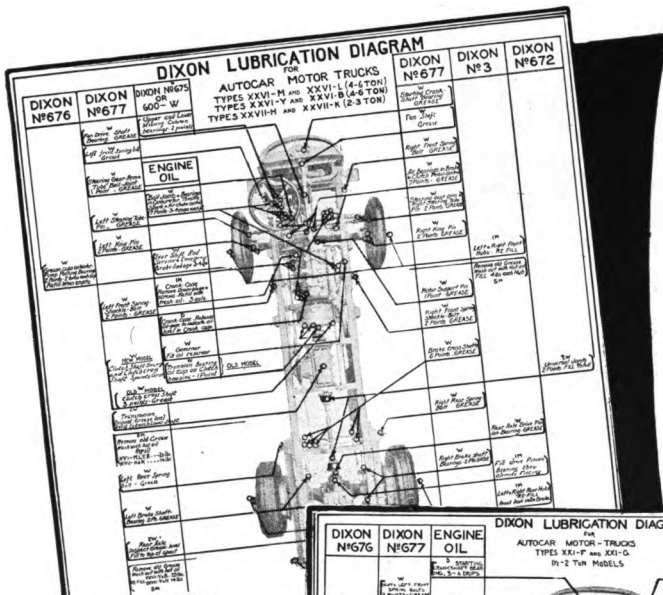
A—WHEELING COAL CO., Warwood, W. Va.

B—DRAPER EAGLE COAL CO., Logan, W. Va.

C—FAIRMONT COAL RIVER COLLIERIES, Seth, W. Va.

Naturally, these tipples are all protected with Dixon's Silica-Graphite Paint—shop coat of dark red and a field coat of Dixon's black.

We have an interesting circular, "Filling the Coal Plant's Needs," which tells in more detail why Dixon's Paint is best for such structures. It also lists records of long service and representative users.

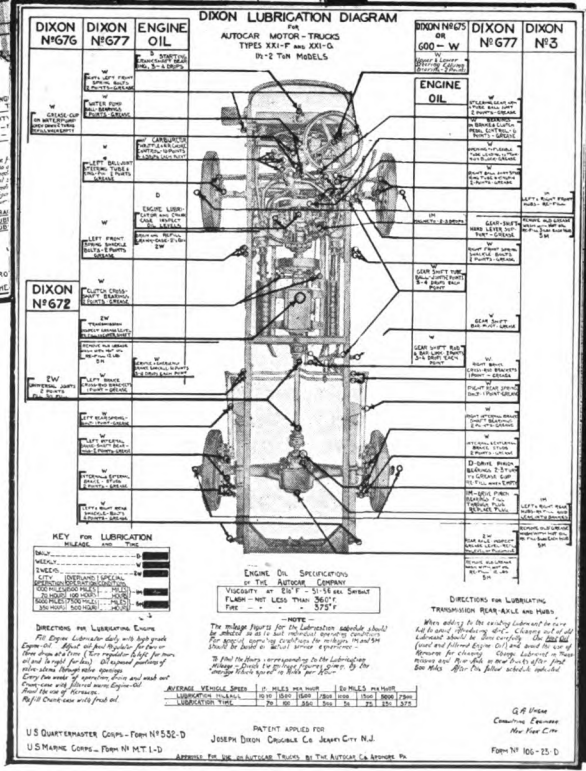


**-KEY FOR LUBRICATION-
GRADE AND TIME**

GRADE	TIME
W	W
...	...

DIRECTIONS FOR LUBRICATION, ENGINE
Examine oil level in crank case daily and indicated by the gauge. Oil is supplied to crank case through a hand pump. On new engines, oil should be changed and drained clean oil after the first 500 miles. When oil level is low, add oil to the crank case. After the first 500 miles, follow the Lubrication Schedule indicated on this diagram.

U.S. QUARTERMASTER CORPS - Form N° 532-E
U.S. MARINE CORPS - Form N° M.T. 1-E



**KEY FOR LUBRICATION
GRADE AND TIME**

GRADE	TIME
W	W
...	...

DIRECTIONS FOR LUBRICATION, ENGINE
The engine lubrication should be checked daily with high grade engine oil. Oil is supplied to crank case through a hand pump. On new engines, oil should be changed and drained clean oil after the first 500 miles. When oil level is low, add oil to the crank case. After the first 500 miles, follow the Lubrication Schedule indicated on this diagram.

ENGINE OIL SPECIFICATIONS
In Test, Autocar, Operating
Viscosity at 100°F - 150°F and 250°F
Flash - Not Less Than 300°F
Fire - Not Less Than 375°F

NOTE
The mileage figures for the Lubrication Schedule should be applied to all 12 ton motor trucks. The mileage figures for the Lubrication Schedule should be applied to all 12 ton motor trucks. The mileage figures for the Lubrication Schedule should be applied to all 12 ton motor trucks.

AVERAGE VEHICLE SPEED	10 MILES PER HOUR	15 MILES PER HOUR	20 MILES PER HOUR
LUBRICATION SCHEDULE	1000	1500	2000
LUBRICATION TIME	100	150	200

U.S. QUARTERMASTER CORPS - Form N° 532-D
U.S. MARINE CORPS - Form N° M.T. 1-D

PATENT APPLIED FOR
JOSEPH DIXON, CHICAGO, ILL. AND NEW YORK, N.Y.

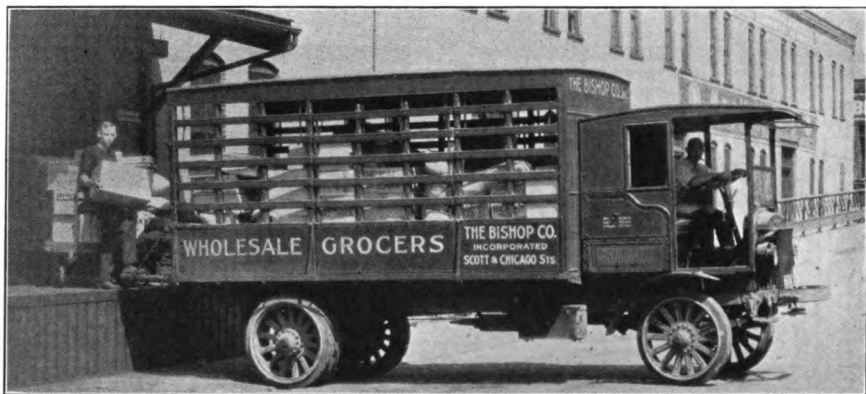
APPROVED FOR USE ON AUTOCAR TRUCKS BY THE AUTOCAR CO. BIRMINGHAM, ALA.

DIRECTIONS FOR LUBRICATION, TRANSMISSION, REAR AXLE AND WHEELS
When adding to the existing lubricant in the transmission, use the same grade of oil. When adding to the existing lubricant in the rear axle, use the same grade of oil. When adding to the existing lubricant in the wheels, use the same grade of oil.

G. A. Hines
Consulting Engineer
New York City

Form N° 100-25-D

DIXON LUBRICATION CHARTS



Dixon Lubrication Charts for Autocar Trucks

IT is a well-known fact that satisfactory performance of any motor vehicle is only possible if the various moving parts are lubricated at proper intervals and with a lubricant suitable for the part in question. Instruction books usually give advice on how to accomplish this, but experience has shown that it is difficult, if not impossible, to follow these instructions because they are not readily understood.

We have given considerable thought to the most practical way of insuring satisfactory lubrication without resorting to a complicated system involving the keeping of complicated records. The outcome of our investigations have been the Dixon Lubrication Charts, which we feel represent a simple and practical solution of the lubricating problem confronting the operating head of a fleet of trucks.

These charts have been prepared to take care of the lubrication of the two-cylinder and also the four-cylinder models. Separate charts for each.

These charts have been prepared in pad form with carbon paper to

obtain copies for office records. They are bound with heavy cardboard so that the pad can be conveniently carried on the truck. On the inside cover is a chassis diagram (See page 78) showing the location of the various parts, what lubricant to use and how often. The record charts are arranged to cover an operating period of one month and there is a sufficient number of originals and carbon copies for a year, together with extra sheets to take care of spoiled copies.

In order to draw attention to the recommended frequency of attention, the lines and arrows indicating the different parts on the diagram are shown in five different colors, each color corresponding to the desired frequency of lubrication. The same color scheme is indicated on the column headed "How Often."

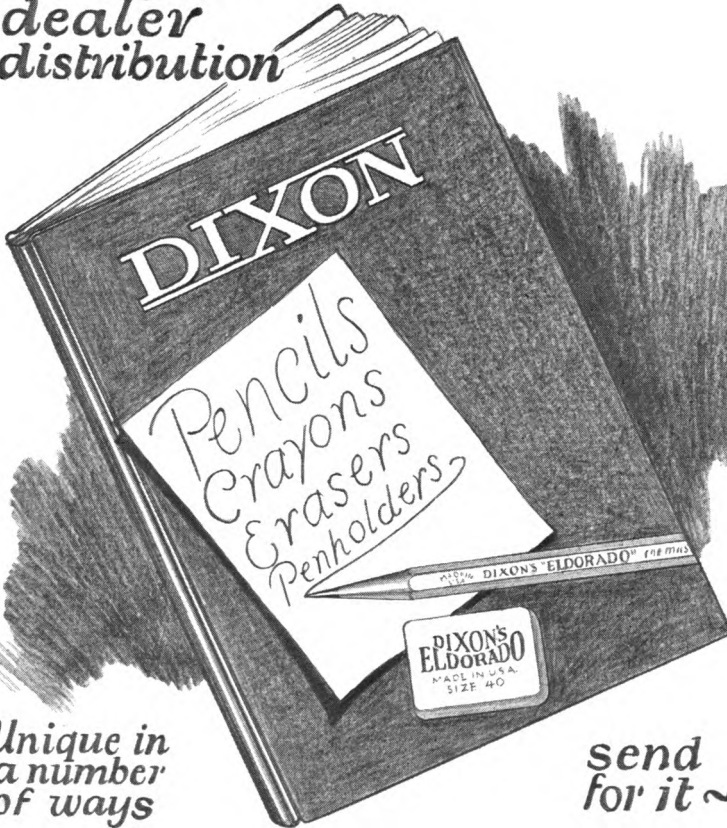
To facilitate the work of the oiler, the parts needing attention are grouped under the lubricant to be used for that part. The grouping is also such as to enable the oiler to work around the chassis beginning from the left front

(Continued on page 86)

New!

DIXON PENCIL CATALOGUE

*ready for
dealer
distribution*



*Unique in
a number
of ways*

*send
for it~*

JOSEPH DIXON CRUCIBLE COMPANY
Pencil Department
JERSEY CITY, N.J., U.S.A.



Making Grass Cutting Easier

THE experience of most of us along this line is limited to our own personal lawns, but even that is sufficient for us to wish, at times, for something to help make the job easier.

The first requisite is a good, easy-running mower. Those manufactured by the Coldwell Lawn Mower Co., Newburgh, N. Y., meet this requirement perfectly. Their name has stood for the highest standard in lawn mower construction since Thomas Coldwell built the first American lawn mower in 1867. They are the world's largest lawn mower manufacturers and their engineers are specialists and have developed types of machines suitable for every need, whether it be motor or horse-driven for parks,

cemeteries, golf courses, or the usual hand style.

The second requisite, but no less important than the first, is good lubrication for the mower and when it comes to this you can't beat Dixon's Lubricants.

The Coldwell Lawn Mower Company think likewise for they are now attaching tags to all of their mowers recommending Dixon's Spring Oil, Cup Grease, and No. 677 for proper lubrication.

It is really surprising how much easier it is to push a well lubricated mower and how much longer it will last. Try a little Dixon's Spring Oil on your mower and you'll quickly see the difference. Most hardware stores carry it in stock.

Graphite

PUBLISHED BI-MONTHLY BY THE
JOSEPH DIXON CRUCIBLE CO.

AT JERSEY CITY, NEW JERSEY, U. S. A.

*In the interests of Dixon's Graphite Productions, including
Crucibles, Lubricants, Pencils, Paint, etc. Sent free upon request*

Vol. XXVI

JULY-AUGUST, 1924

No. 4

SERVICE RECORDS

WE have always been particularly proud of our Honor Roll of Employees and it is with this feeling that we boastfully point to the photograph which appears on the center spread of this issue.

The aggregate years of service of this group totals 542 years, or an average of 49.3 years. This group may be identified as follows:

LEFT TO RIGHT

<i>Top</i>	Matthias D. Earle.....	1872.....	52 years
	John A. Tracy.....	1874.....	50 "
	George Scheppler.....	1877.....	47 "
<i>Middle</i>	John S. Poole.....	1878.....	46 "
	John Lincks.....	1862.....	62 "
	John Heintz.....	1877.....	47 "
	John Wagner.....	1874.....	50 "
<i>Bottom</i>	Maria O'Brien.....	1878.....	46 "
	Bella Kelly.....	1874.....	50 "
	Louisa Newton.....	1878.....	46 "
	Theodore B. Valleau.....	1878.....	46 "

The next issue of GRAPHITE will contain the photograph of the group of five who have been with us for fifty years or more.

The March-April issue contained an account of the celebration of the Golden Anniversary of Mr. John A. Tracy with this Company. The remarks made at that time by the various speakers are just as applicable to this service group. More need not be said, for their records speak for themselves better than human words of praise.

When gear-box lubrication is figured on a cost-per-mile or cost-per-ton basis, *then* you will find

DIXON'S 677

most economical.

It cuts down power-loss in the gear-boxes and makes gears operate easily, quietly, and deliver full engine power at lowest cost.

WRITE FOR BOOKLET NO. 190G

JOSEPH DIXON CRUCIBLE CO.

Jersey City, N. J.



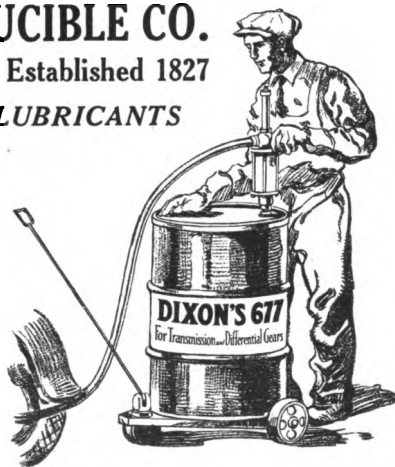
Established 1827

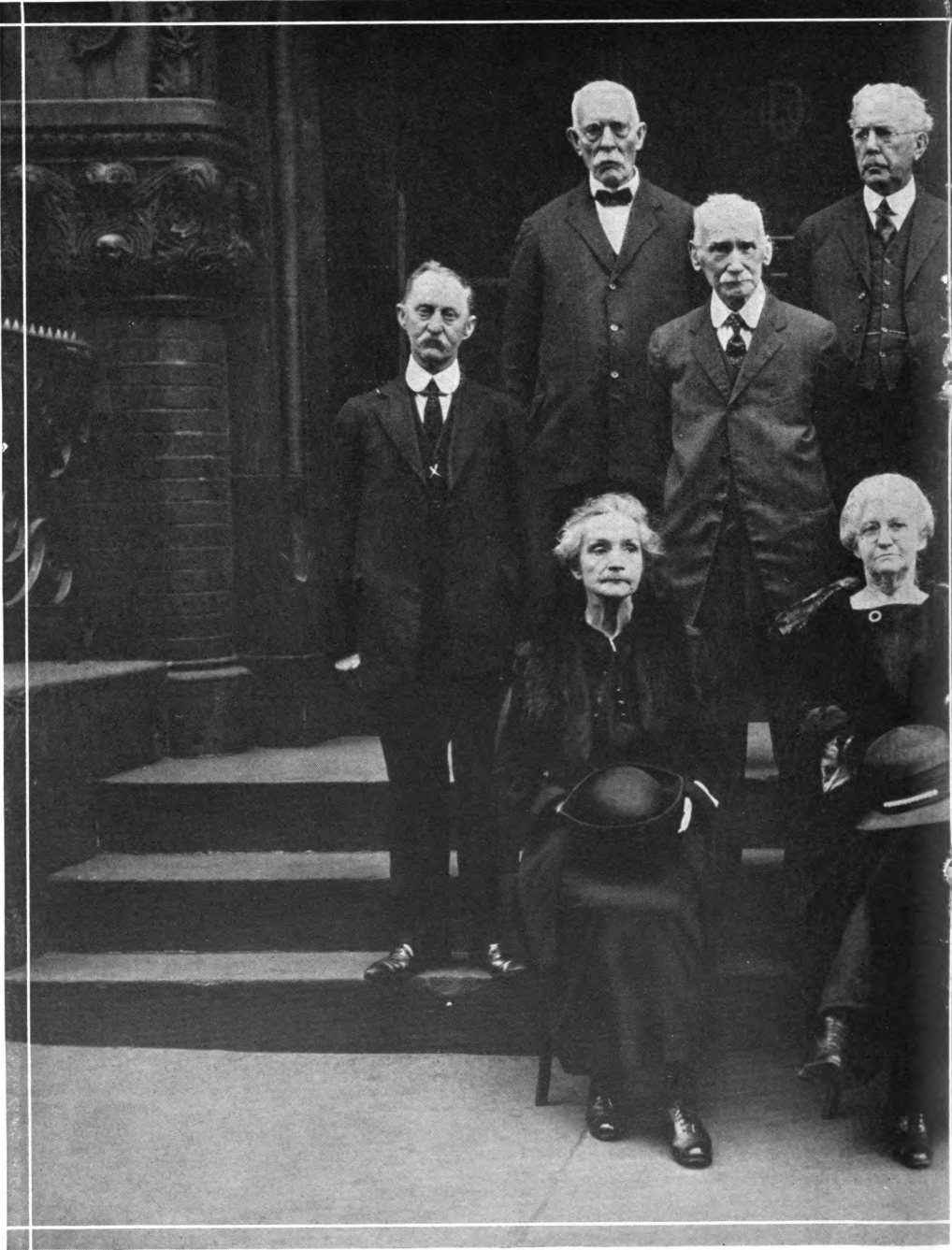
MAKERS OF QUALITY LUBRICANTS

*For Spur and Bevel Gears
Use Dixon's Gear Lubricant
No. 677*

*For Worm Drives Use Dixon's
Gear Oil No. 675*

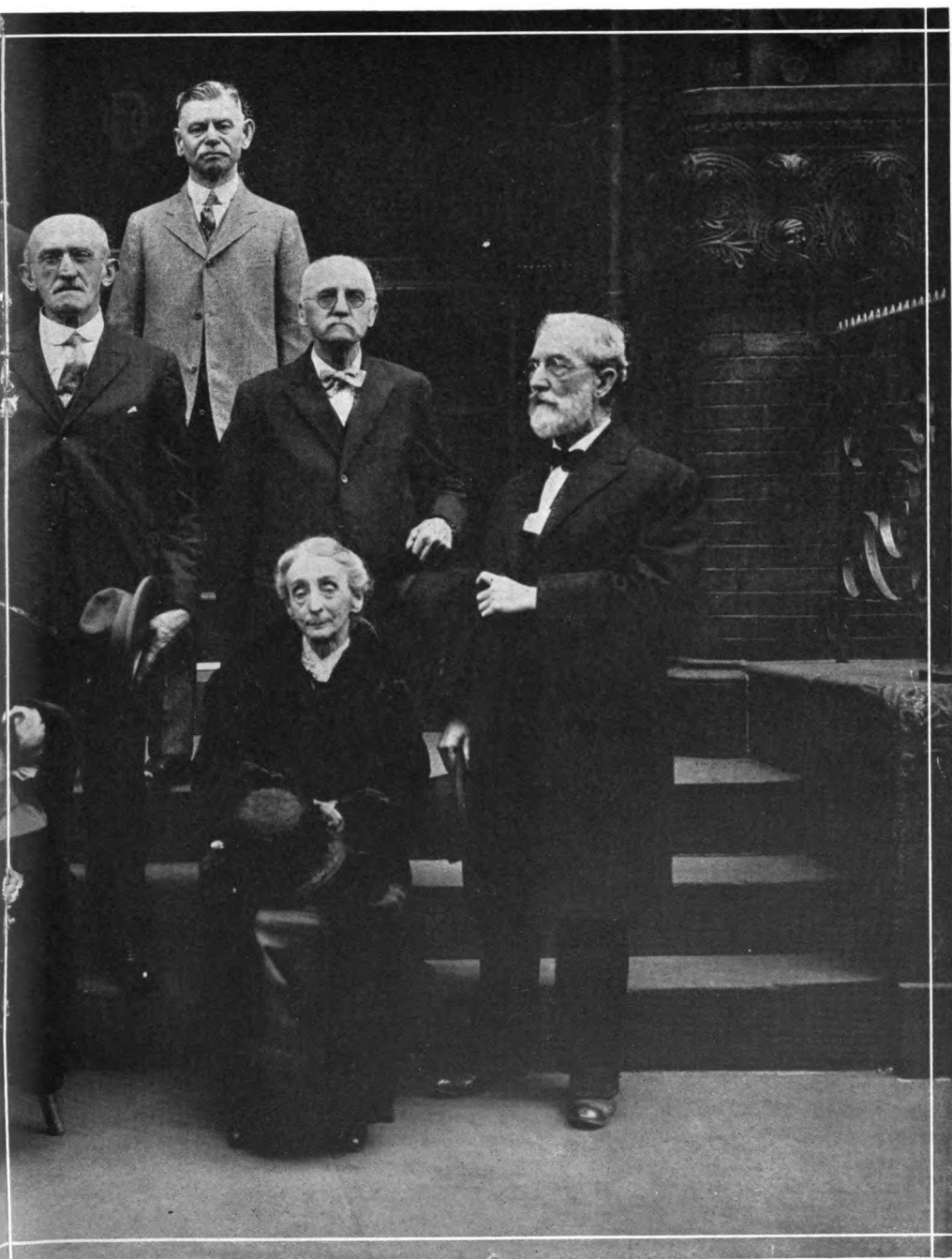
*For Universal Joints Use
Dixon's Grease No. 672*





SERVICE FORCE, JOSEPH D.

Aggregate Year



DIXON CRUCIBLE COMPANY

of Service—542

(page 82)

Dixon Lubrication Charts for Autocar Trucks

(Continued from page 79)

side, back to the rear and then to the front of the right side.

The charts are intended to act primarily as a guide for the oiler and to assist him in his work in properly lubricating the chassis. The diagram showing the location of the various parts simply serves as a permanent reminder.

In addition to facilitating the proper lubrication of the chassis, the chart provides also a handy method of obtaining lubrication records. The number of entries to be made either by the oiler or preferably by the foreman is small. It is only necessary to check off the parts lubricated each day, to enter the *total* quantity of each lubricant used, the time required for lubrication and the daily mileage.

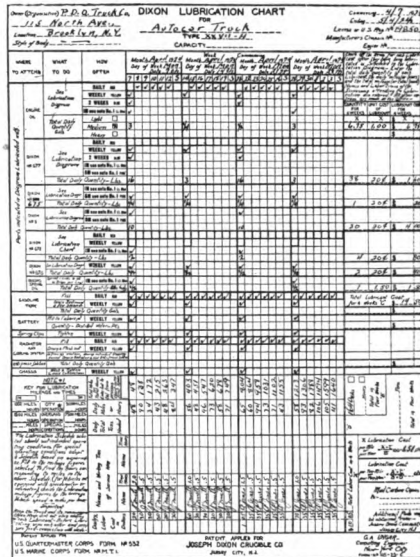
At the end of each 4 weeks a copy of the record so obtained is sent in to the office, which is then in a position to obtain the total monthly lubricant cost "C," the total monthly labor cost "A," and the total monthly mileage "B." The lubrication cost per mile can then be readily computed by means of the formula shown on the chart and if tonnage records are kept, also lubrication cost per ton mile.

In order to show the simplicity of using the chart, a sample chart, next column, is shown filled in.

The figures appearing in the columns marked "X" are to be filled in at the office. The remaining figures are the only ones to be filled in at the shop.

"See Also Instructions For Using Charts"

The records which it is possible to obtain with these charts will enable



the operator to determine the actual lubricating cost, a comparison of this lubricant cost with the mechanical maintenance expenditure will clearly demonstrate the fact that the vehicle properly lubricated will show a considerable lower maintenance cost than a vehicle which has not been properly attended to.

Copies of these charts may be obtained from ourselves, or from branches of The Autocar Company, upon request.

QUALIFIED.—"We want a man for our information bureau," said the manager. "He must be a wide-awake fellow and accustomed to complaints."

"That's me," replied the applicant. "I'm the father of twins."—*Cornell Widow.*



Bridge, Maine Central Railroad Co.

Topsham, Maine

WE are indebted to Mr. P. N. Watson, Supt. Bridges and Buildings, Maine Central Railroad Company, for the interesting photograph of the new Androscoggin River bridge at Topsham, Maine.

This bridge is now being painted with Dixon's Silica-Graphite Paint to protect it against corrosion.

The list of bridges protected with Dixon's Silica - Graphite Paint steadily grows longer as bridge superintendents realize more and more the wisdom of applying a "long service" paint such as Dixon's and saving the labor cost of repainting necessary when a low price, short-life paint is used.

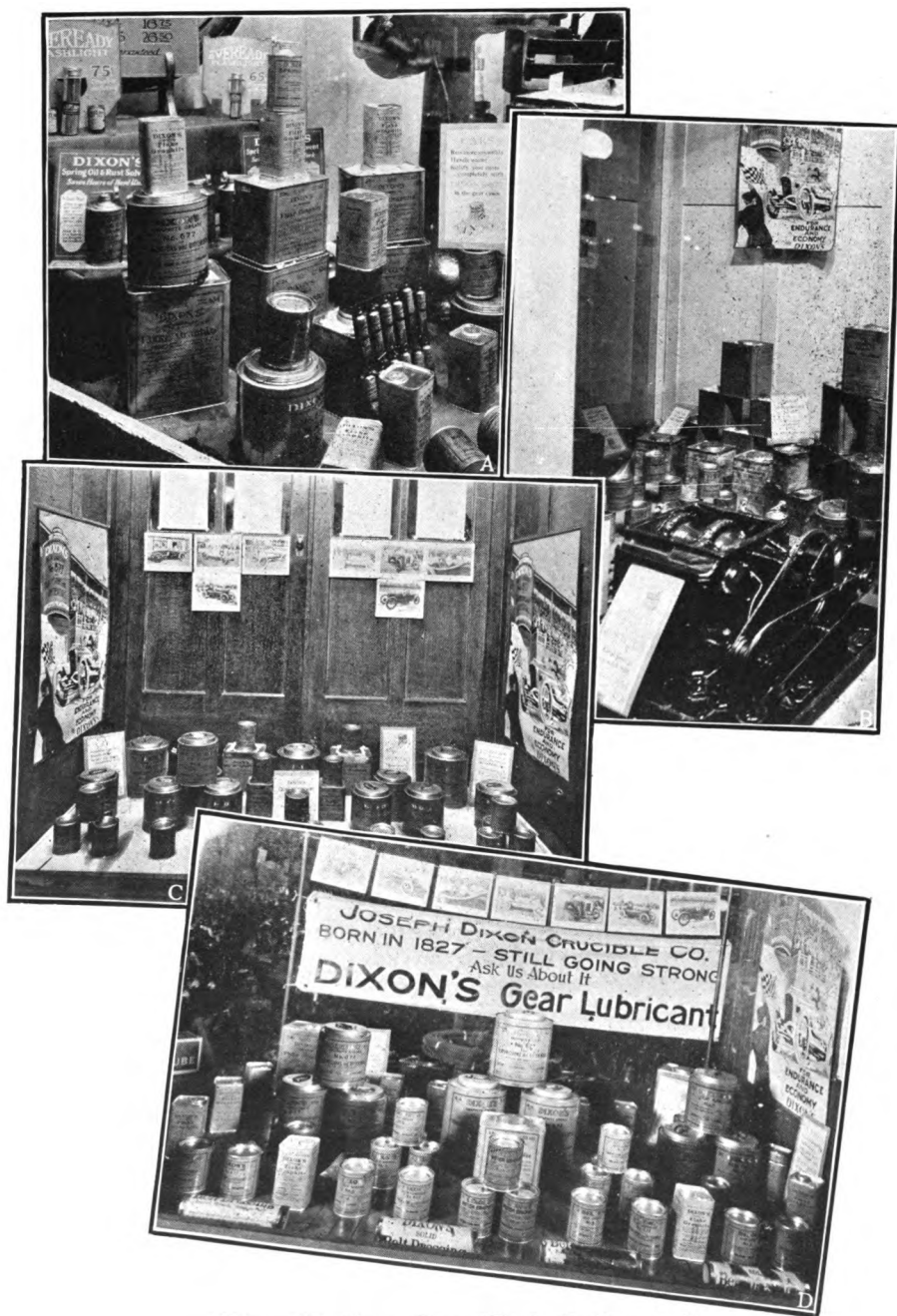
Many bridges throughout the country from the famous bridge over Niagara Falls to small county culverts are protected with Dixon's Silica-Graphite Paint, and reports

of service given run from five to fifteen years.

With Dixon's Red Lead-Graphite Primer added to the Dixon line of paint, we are now in a position to fill the needs of those who prefer a red lead paint for priming coat. It has the good qualities of red lead with the well-known water-repellant advantages of a high-grade Silica-Graphite paint. It lessens the "drag" on the painter's arm and is not so severe on the wear qualities of the brush.



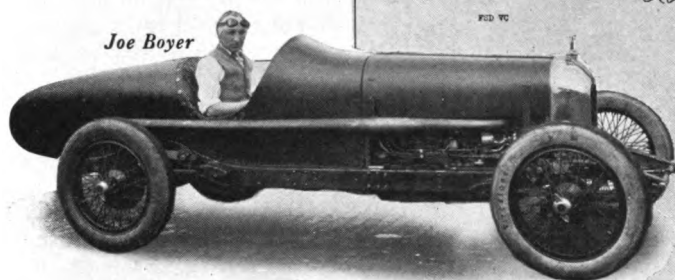
A GREAT CHANCE.—WANTED
—Pipe organist, who can also fill the position of auto mechanic or steno. and typist or bldg. custodian or handy mechanic or undertaker; a good, steady position. Box M-110-200.—*Classified ad in the Oakland (Cal.) Tribune.*



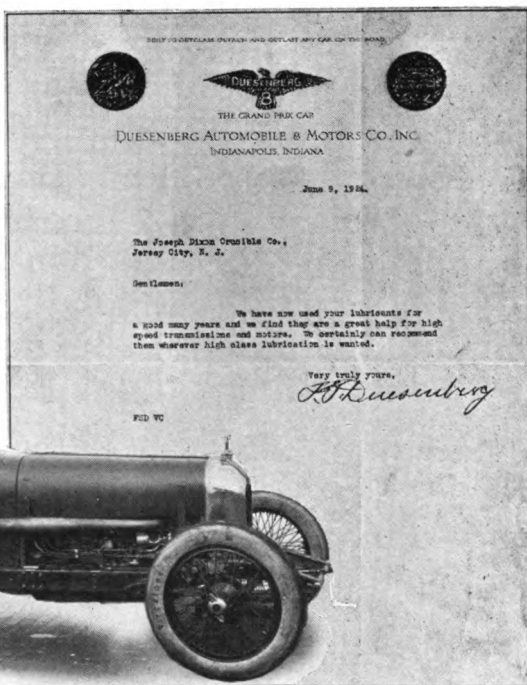
Dixon Displays, Race Week, Indianapolis



L. L. Corum



Joe Boyer



Dixon Automobile Lubricants at Indianapolis Race, 1924

THE outstanding automobile race of the year is always the one held at the Indianapolis Speedway on Memorial Day. This 500-mile Classic is the marathon of auto racing.

The Speedway might well be called the crucible of the automotive industry. Here are tested out, under extraordinary conditions, new automotive developments and improvements.

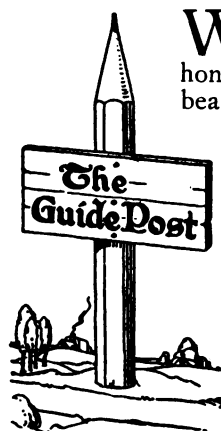
This year the supercharger proved its right to serious consideration by bringing greater speed with reduced piston displacement. Gradually the piston displacement has been reduced until now it is only 122 cubic inches, about the size of a

Ford engine, and we understand that it is to be reduced still more for 1926.

Even with these small engines the time of the winning car was 98.24 miles per hour. In fact, the first five cars finishing beat the old record of 94.48 miles per hour made in 1922.

Joe Boyer, driving a supercharged Duesenberg Special, was the first to get the 1924 checkered flag. Sharing these honors, however, is L. L. Corum, who drove the victorious Duesenberg the first 109 laps and kept it within striking distance of the honor place. Naturally too, Fred Duesenberg, master designer and builder of racing cars and the first to equip an American car with

(Continued on page 90)



WHEN you look into our candid, honest (tho' weather-beaten) features this issue, it will be nearing the end of the Summer Vacation, and nearing the beginning of another School Year.

We have heard of boys and girls who really are tickled at such a prospect—but never met any.

The general run of boys and girls feel "cribb'd, cabin'd and confined" in a classroom—and they go into it only a trifle more graciously than the proverbial ox is led to slaughter.

Years ago a clever artist made a little book for us. It was in verse. In it these lines occur:

"And School is richer than play in fun
For Dixon's Crayons have made them one."

That is, Dixon's Crayons are such fun to work with in School that even playing games cannot compete with them in this respect.

At any rate, children love to play with color. It is a universal trait of childhood. If your boy or girl in School is no exception to the rule, tell him or her to look out for the Dixon EDUCATOR Crayon Display wherever he or she buys crayons. The fact is, EDUCATOR Crayons are a step in advance of the crowd: and the Display puts them still more in the lead.

And you, Mr. Wholesaler, alert for the new thing that sells fast—you above all others should be on the lookout for increased sales of crayons by means of this very EDUCATOR Crayon Display.

Dixon Automobile Lubricants at Indianapolis Race, 1924

(Continued from page 89)

the supercharger, shares the honors with Boyer and Corum.

Important to us is the fact that this winning Duesenberg used Dixon's 677 Transmission and Differential Lubricant, No. 3 Cup Grease, Spring Oil, Motor Graphite and Pipe Joint Compound.

Boyer, Corum and Duesenberg are all boosters for Dixon's Automobile Lubricants. Duesenberg's letter may be seen at the top of page 89 and Joe Boyer says, "I do not know of a lubricant for automobiles and racing cars equal to Dixon's." L. L. Corum says, "Dixon's Lubricants have met the hardest test successfully for me in my racing cars."

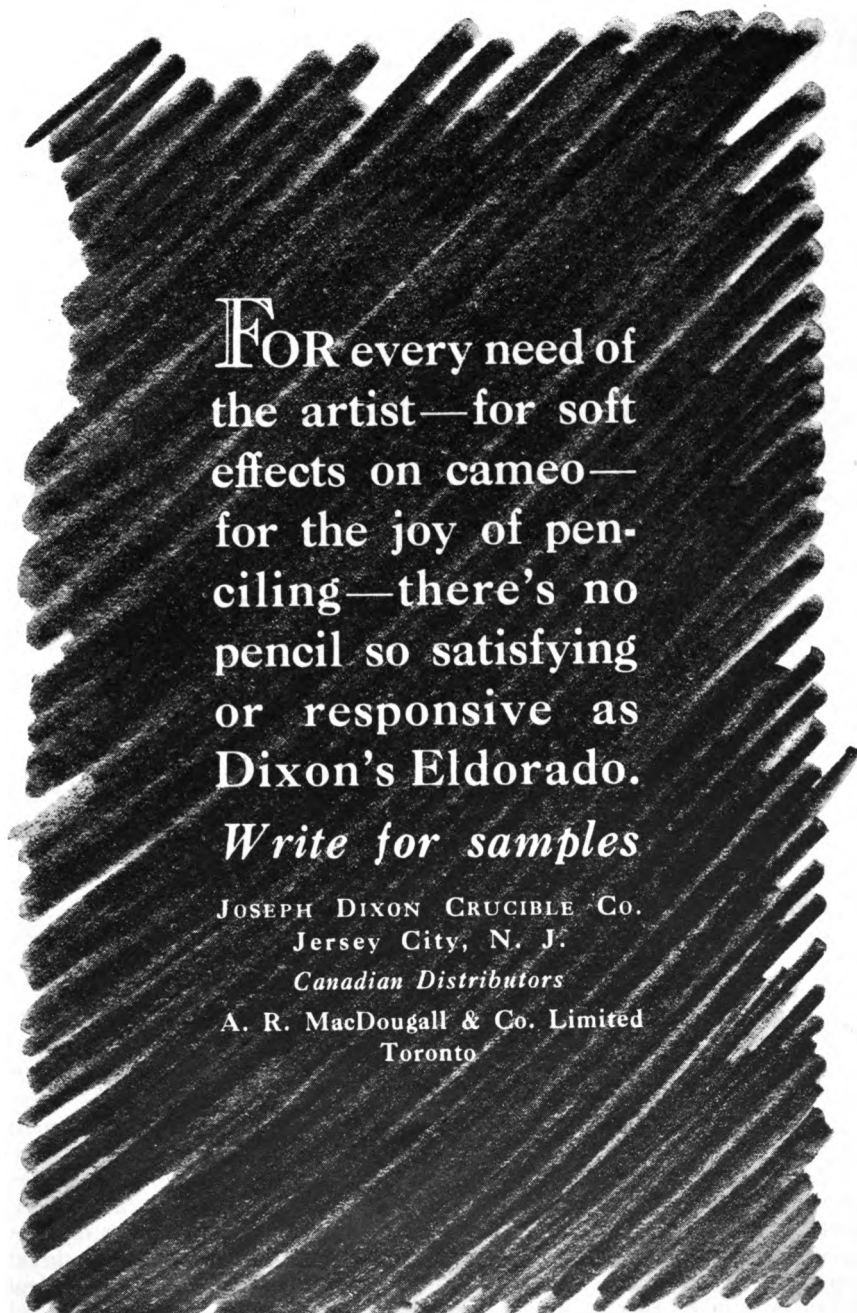
Besides Boyer and Corum, nearly half of the other drivers used Dixon's 677 in transmissions or differentials. Every car finishing or flagged used Dixon's Cup Grease, Motor Graphite, Spring Oil, and Pipe Joint Compound.

This is a record to be proud of and we are. Dixon's Automobile Lubricants have been used by all the prominent racing drivers for years past. This is worthy of serious consideration on the part of car owners as well as garages and service stations. For what Dixon's does for racing cars it will do for every car or truck.

On page 88 appear photos of window displays in Indianapolis during the week preceding the race, as follows:—

- A—LILLY HARDWARE CO.
- B—VONNEGUT HARDWARE CO.
- C—GIBSON CO.
- D—CENTRAL RUBBER & SUPPLY CO.

(Continued on page 93)



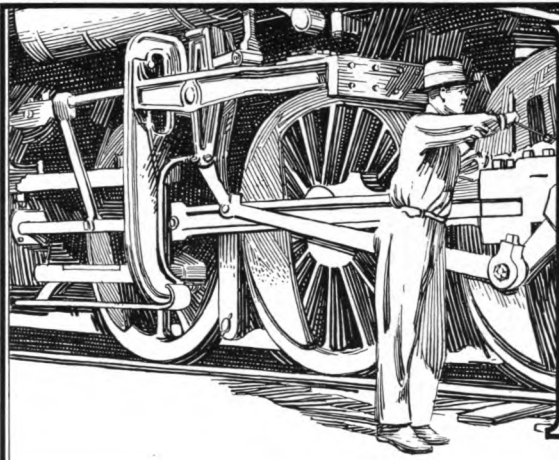
FOR every need of
the artist—for soft
effects on cameo—
for the joy of pen-
ciling—there's no
pencil so satisfying
or responsive as
Dixon's Eldorado.

Write for samples

JOSEPH DIXON CRUCIBLE CO.
Jersey City, N. J.

Canadian Distributors

A. R. MacDougall & Co. Limited
Toronto



DIXON'S GRAPHITE HUB LINER LUBRICANT

Stops the wear and cutting of shoes, hub liners, wedges, etc., because it has a low coefficient of friction and withstands great pressure without squeezing out. It builds up a smooth but tough veneer of flake graphite on bearing surfaces which prevents metal-to-metal contact and wear. Write for circular HR and samples

**JOSEPH DIXON
CRUCIBLE CO.
JERSEY CITY, N. J.**

Air-Brake Instruction Car

(Continued from page 76)

heat to winter's cold. This means that it does not melt and run in warm weather nor stiffen in cold and cause sudden, retarded, or uneven action.

Dixon's Brake Cylinder Lubricant should be used on brake cylinders, angle cocks, engineers' valves and all other parts requiring lubrication, except the triple valve slide valve.

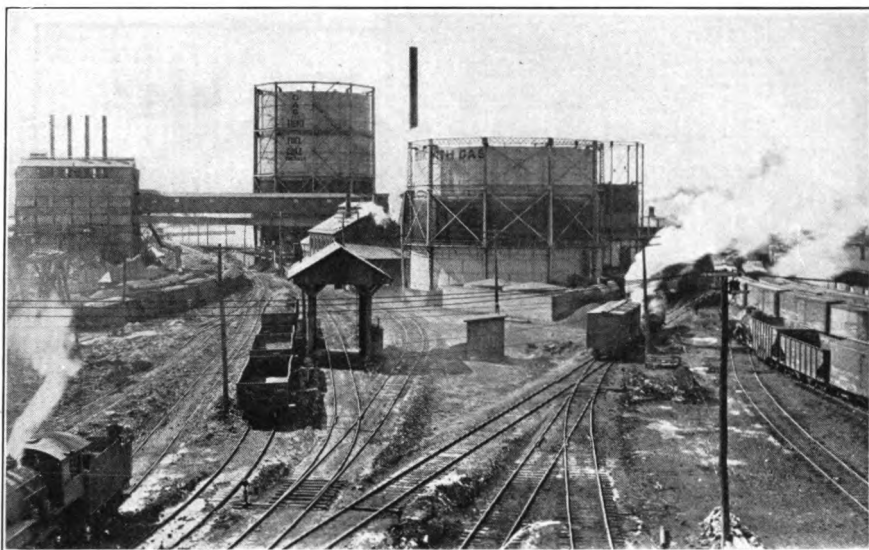
Dixon's Triple Valve Graphite, a fine flake graphite of the highest quality, should be used on the surfaces of the slide valve and its seat. The surfaces should be cleaned thoroughly and the dry graphite rubbed into the working metal surfaces. This provides ample lubrication and insures positive valve action and seating in the bushing. Undesired quick or retarded action is reduced to a minimum.

Dixon's Graphite in Dentistry

THE uses of graphite are numerous and cover a variety of fields of industry. Dixon's Graphite is used extensively in brass and iron foundries as a facing for the molds to keep the metal from sticking. It is also used in electrotyping, another form of casting.

We have known for some time that Dixon's Graphite was used by dentists in making crowns, etc., but Edw. C. Bachfield, D.D.S., tells us the exact mixture as follows:—

"To one-half portion cement powder add an equal amount of Dixon's Flake Graphite and mix with cement liquid in usual manner. Allow to set in matrix over night—cast clasps, crowns, or inlay, direct to this mixture. The result is perfect margins and smooth surfaces."



Portland Gas Light Co.

Portland, Maine

ON account of the remarkable wearing qualities of Dixon's Silica-Graphite Paint, Color Black, for the protection of gas-holders, generators, purifiers, stacks and other heated surfaces, it has recently been specified and is now being used at the large and well-organized plant of the Portland Gas Light Company at Portland, Maine. This plant is shown in the above illustration.

Gas-holder and smokestack protection presents a problem, for two destructive elements are usually encountered, excessive heat and sulphurous gases.

A natural union of flake silica-graphite composes the pigment of Dixon's Paint and successfully withstands the heat, sulphurous gases, and atmospheric conditions. Being practically inert, the pigment does not combine chemically with the oil, like many metallic pigments.

Such chemical combination results in a brittle coating. In Dixon's Paint the natural elasticity of "life" of the oil is not thus destroyed.

The point to remember is that the remarkable results possible with Dixon's Silica-Graphite Paint are due chiefly to the pigment, silica-graphite.

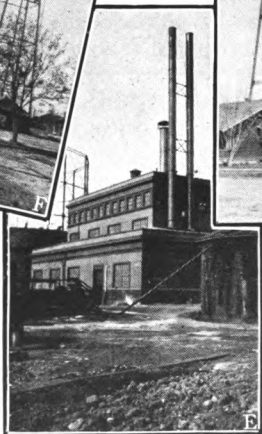
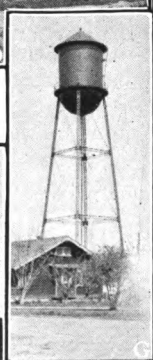
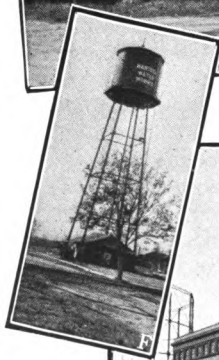
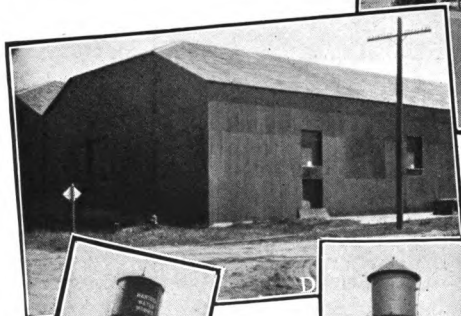
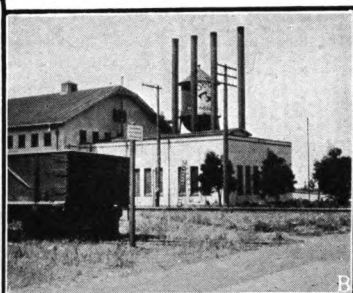
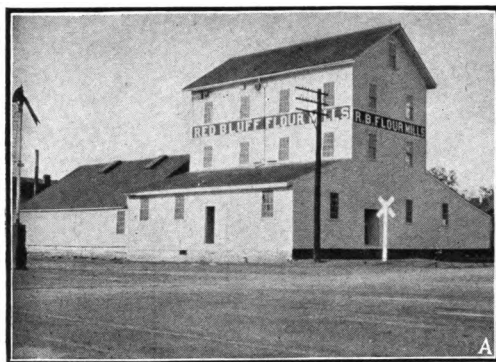
If you contemplate painting any gas-holder equipment, our booklet No. 190-B will prove interesting and be the means of saving in your costs.

Dixon Automobile Lubricants at Indianapolis Race, 1924

(Continued from page 90)

These windows were arranged for by our representative, Mr. Chas. T. Kerr who also ably took care of our racing driver friends at the Speedway.

Mr. Kerr tells us that these windows attracted a great deal of attention and judging from the photos, we agree. We are sure the dealers benefited from these displays.



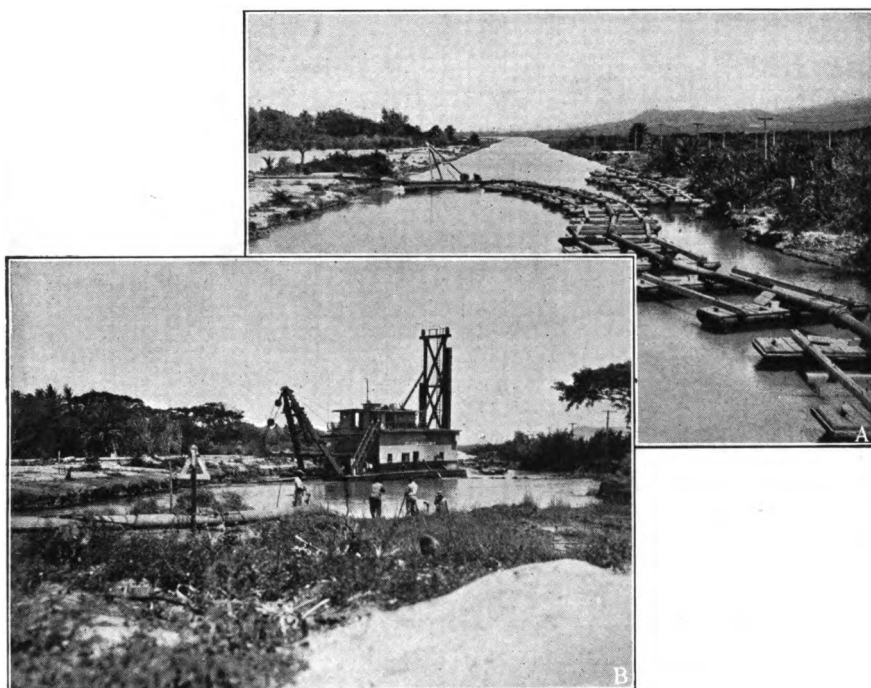
California Boosters for Dixon's Paint

READERS of GRAPHITE have no doubt noticed the number of California structures shown in previous issues as being protected with Dixon's Silica-Graphite Paint. On this page may be seen additional structures.

Californians are great boosters for their state and also for Dixon's Paint as our photographic evidence plainly shows. Their judgment is good, for Dixon's Paint has long enjoyed a reputation for high quality and long service.

And, after all, it's the length of service which counts—or should count. There is little economy in applying a cheap paint that will last only half as long as Dixon's.

Dixon's Paint may be found on the important structures of every state in the Union.



Hawaiian Dredging Co., Ltd.

Honolulu, T. H.

THE lower of the photos above shows the dredge Kewalo of the Hawaiian Dredging Co., Ltd., in operation on the Waikiki Reclamation Canal, and the upper photo shows the pipe line crossing the canal on to the land being reclaimed.

This dredge is lubricated with Dixon's Waterproof Graphite Grease. After only one application, the captain advised that heretofore he found no grease that has been as good. He states that it adheres to the gears and is entirely satisfactory after three months' use.

We have always recommended the use of Dixon's Waterproof Graphite on dredges as it is particularly adapted to this class of work. It is

extremely adhesive and as it contains no soluble ingredients cannot be washed off by fresh or salt water, or even acid or alkaline water. Because of its tenacity it will not be thrown from gears, chains, etc., traveling at a high speed.

These properties highly commend its use upon:

Wire ropes	Winches
Chains	Hoisting engines
Exposed gears	Quarrying machinery
Cranes	Mining machinery
Derricks	Elevator plungers
Dredges	Elevator guides
Steam shovels	Fire Hydrants
Pile drivers	Cold roll-necks

and every sort of machinery exposed to water or the weather.



Fred—"Doggone it! Why can't we get decent pencils around here! Every time I get an idea and start to work the lead breaks!"

Ted—"Sh! Get happy! The Purchasing Agent's going to specify Dixon Ti-Con-Der-Oga the next time he orders pencils. Then your work will go smoothly."

DIXON
"TI-CON-DER-OGA"
The Business Pencil

Sold by All Stationers

JOSEPH DIXON CRUCIBLE CO.

Pencil Dept.



Jersey City, N. J.

Graphite

VOL. XXVI

SEPTEMBER-OCTOBER, 1924

NO. 5



JOSEPH DIXON CRUCIBLE CO.

ESTABLISHED
1827

JERSEY CITY, N. J., U. S. A.

INCORPORATED
1868



*Miners, Importers and Manufacturers of
Graphite, Plumbago, Black Lead*



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Graphite

A MAGAZINE PUBLISHED BY THE
JOSEPH DIXON CRUCIBLE COMPANY

AT JERSEY CITY, N. J.
U. S. A.

Volume XXVI

SEPTEMBER-OCTOBER, 1924

Number 5

An Interesting Correspondence with the Eldorado Pencil Artist

THAT the world is ransacked to provide material to make a lead pencil is known to many—but few stop to ponder on it, and fewer still to think to what extent the artist travels who makes the celebrated Horter ELDORADO drawings.

Mr. Horter recently returned from a trip to Southern Europe. He spent the better part of a year going from one treasure of art and architecture to another, making finished "ELDORADO" drawings and sketches. Now and then, he wrote a letter. So now we'll let him speak himself a bit.

Says he—

"In my wanderings I have come across countless unique subjects, many of which I have a record of. I have added to the list a doorway in a wonderful old building in Palma, on the island of Mallorca, a Province of Spain not generally visited by Americans. I found there a wealth of interesting material and I will show you the sketches I made when I return. I have seen many places not planned in our schedule, which will

prove valuable later on when the campaign is still further developed.

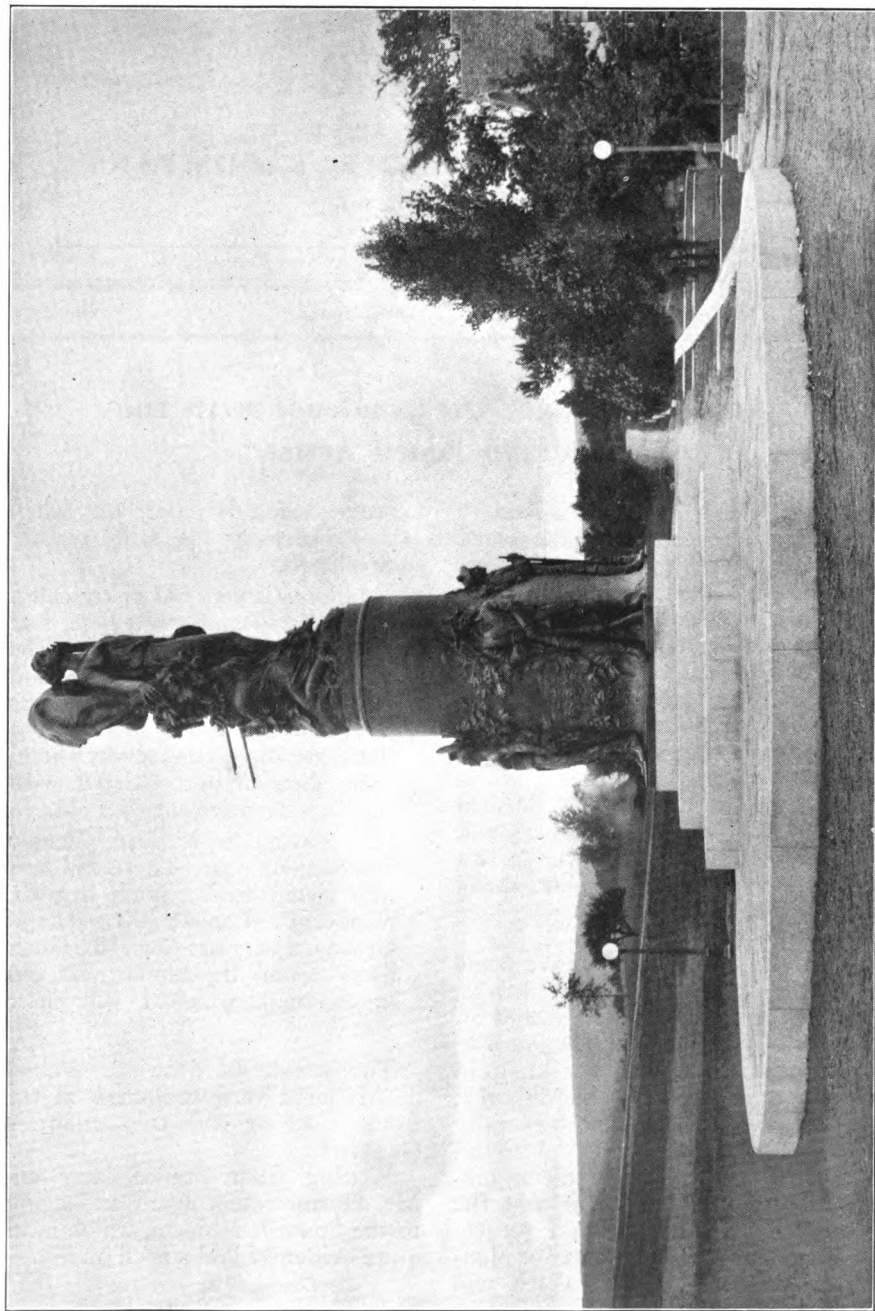
"Mallorca is very old historically. There are Roman ruins here, and Moorish and Spanish, for the place changed hands time and again in the old days. Precipitous cliffs and mountains abound, and there are olive trees everywhere; some knarled and twisted with age, being many centuries old.

"En voyage à Madrid, Toledo and Segovia next. There will be a rich yield there. Spain is truly wonderful. I spent two weeks in Gerona, a very old town two hours away from Barcelona and did much there which I will show you."

The wonderful drawing "Palma de Mallorca" is reproduced on the front cover of this month's GRAPHITE.

Writing from France later on, Mr. Horter refers again and again to the Spanish subjects, which have quite evidently laid a spell on him—

(Continued on page 102)



Liberty Monument, Ticonderoga, N. Y.

Ticonderoga Again the Scene of International Amity

THERE is much in the little village of Ticonderoga, N. Y., to interest and instruct American citizens. And the surrounding country teems with historical associations. A recent addition to the charm of this region is the Liberty Monument, recently unveiled in the village. This very lovely and impressive work of art was presented to the town of his birth by Mr. Horace A. Moses. The dedication was attended by one of the largest throngs in the history of Ticonderoga. There were several distinguished guests on the occasion, representing France and England. And a perusal of the "Ticonderoga Sentinel" of that date shows that the accompanying ceremonial was very beautiful.

We quote, as follows, a description of the monument, which appeared in the "Ticonderoga Sentinel," and which was written by Mr. Charles Dorr:

"The great monument is composed of Balfour pink granite from Salisbury, North Carolina, and the figures in the group standing on the base are in bronze, and are most life-like in their interpretation. They are modelled with a master hand, these four figures who stand on guard at this entrance to the Northern Colonies—an American Green Mountain boy; an American Indian, probably an Iroquois; a Frenchman; and a Scotsman, representing the famous Black Watch.

"These figures compose the impressive group standing at the base of the monument.

"The sculptor has left, purposely,

wide-open spaces back of these figures, all clad in the costumes of the period and about seven feet in height. The oak leaves suggest the free air of the country, and are symbolical of freedom.

"Above these figures, partly encircling the monument, is the inscription in large letters: 'Ticonderoga, Northern Gateway to the American Colonies.'

"Over the inscription to Ticonderoga, the sculptor has placed thirteen stars typifying the thirteen original states of the Union. There is a 35-foot circle with coping of Balfour pink granite and between the coping and base of the monument are strewn pieces of broken granite. In seals of bronze are the original thirteen states represented with historical accuracy.

"The monument might be divided into three divisions: First, the base and group of four figures standing on guard; then the great monument itself, and surmounted at the top by the triumphant figure of Liberty, which is the crowning achievement of the sculptor. Here stands Liberty, born of the forest primeval, and a veritable goddess with a flag unfurled and waving around her graceful figure. It is a very fine conception and most original in treatment. The figure is about eleven feet in height and is the imposing one in the group, designed by the American sculptor.

"Crouching in the background are the figures of two Americans and two Indians in ambush with tomahawks ready for the fray. The Americans are also posed for the en-

counter, while concealed partly in the foliage is a wild catamount, ready to spring and attack in a ferocious manner, suggesting the dangers of the period.

"To commemorate the battles of Ticonderoga, the sculptor has placed the dates and records of the various engagements fought in the region on tablets between the groups, and also are inscriptions from several distinguished authorities, which doubtless will be perused by future generations.

"Between the figure of the Indian and the American, represented by a Green Mountain boy, are these records and dates:

"Champlain - Iroquois, 1509;
Montcalm - Abercrombie, 1758;
Amherst - Bourlamarque, 1759;
Ethan Allen-De La Place, 1775;
Burgoyne - Sinclair, 1777; Powell-Brown, 1777.

"At the base of the tablet is the following inscription by Percy Mackaye, author and playwright:

"Lulled are the passions and the pain,
The Legend and the Race remain."

"At the back of the monument and between the bronze figures of the Frenchman and Scotsman, inscribed at the top, are these lines from Simonides, the Greek poet, suggested by Dr. John H. Finley, noted educator and a member of the editorial staff of the *New York Times*.

"For hastening to set a Crown of Freedom in this new land, we lie possessed of praise that grows not old."

"Underneath are these fine lines written by James Russell Lowell:

"And here were men co-equal with
their fate,
Who did great things, unconscious
they were great."

"These lines really form the keynote of the monument, and the sculptor's conception of the Birth of Liberty.

"Of interest to all who love their native land is a scene of Fort Ticonderoga and Lake Champlain in bas relief.

"The decorative foliage suggested by the leaves of oak, the laurel and the pine symbolize the strength and glory of our country, which should be enshrined ever green in our memory.

"The monument is the work of Charles Keck, a famous New York sculptor, whose beautiful work is seen in many places in this and foreign countries."

Our own great interest in Ticonderoga is heightened by the location there of our graphite mills—and nearby, at Hague, N. Y., are Dixon Graphite Mines. And we shouldn't forget to mention Dixon's "Ticonderoga"—"the fine American pencil with the fine American name."

An Interesting Correspondence with the Eldorado Pencil Artist

(Continued from page 99)

which you see in the drawings themselves. And that this letter ends on a proper note, you will agree:—

"I wish you could join me in a dinner at this old French inn where I am staying. You come in through the largest of kitchens covered top to floor with pots and kettles. They serve the coffee in great bowls—porridge bowls. The food is most wonderful. And there are clean sheets, too, on my bed, which is so large that I fear sometimes I will get lost in it."

Concerning Horter ELDORADO Photogravures

See page 104

CABLE ADDRESS
SPHINX PHILADELPHIA
ESTABLISHED 1854

F. WEBER CO.
INCORPORATED

BRANCH HOUSES
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BALTIMORE, MD.
1125 CHESTNUT STREET
PHILADELPHIA, PA.

MANUFACTURERS **FINE ARTISTS COLORS AND MATERIALS** IMPORTERS
WATERPROOF DRAWING INKS
DRAWING MATERIALS



MAIN OFFICE AND FACTORY
1220 BUTTONWOOD STREET
PHILADELPHIA, PA.

Joseph Dixon Crucible Co.,
Eldorado Pencil Department,
Jersey City, N. J.

Gentlemen:-

Just a few words to express our appreciation for the three Horter reproductions. We consider these works of art, worthy of any library.

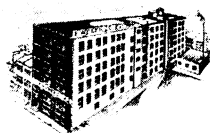
There is a beauty about Earl Horter's work which almost defies description in words. Depth of feeling is expressed, arousing the emotions in a way aroused otherwise only by the greatest gems in music, poetry and prose.

We compliment you on the acquisition of the services of such a talented artist as Mr. Horter.

Very truly yours,

F. WEBER CO.

EGW:BE



ADDRESS ALL COMMUNICATIONS TO THE COMPANY



Window Dressers Take Heed

THESE photogravures will make a sensation."

When the printer wrote us that way we made allowances for exuberant enthusiasm.

But it has turned out to be a prophecy justified to the full.

On another page we reproduce a letter from one of the leading Art Supply Houses of the country about these engravings.

It came to us "like the gentle dew."

Unasked, unlooked for, but very grateful.

Please read this letter if you are in search of window display material far out of the ordinary.

And after you have done so, continue to read this column.

"You will probably be interested to know that we have recently had some wonderful window displays here in Boston, built around the three Horter photogravures. Among the concerns whose windows have been attracting a great deal of attention and favorable comments are those of the J. L. Hammett Co. Store; Spaulding, Moss Co.; Ward's; L. E. Muran Co.; and Wadsworth, Howland Co. It seems that there is always some one looking at these drawings, which is of course excellent advertising."

Thus writes our Boston Pencil Representative, Mr. Guy Hart.

Why, man alive, even the chief says "they are a good investment."

Investment — that's the word — all you invest to get them in your window is a postage stamp.

Try it—and find out.



A Shower of Color

YET gay with promise of sunlit fields, of rain bows, of shaded woods with spectral tints.

DIXON'S "BEST" COLORED PENCILS
Used by leading artists and considered the best colored pencils made. You can buy them in assortments of 7, 12 and 24. All primary colors and all favored tints are there—smooth as silk—true—responsive! And equally important, they stand unusual pressure without breaking.

Here is the full list of colors—

LAKE RED	AZURE BLUE
CARMINE	INDIGO BLUE
VERMILION	DARK GREEN
PINK	LIGHT GREEN
VIOLET	OLIVE GREEN
PURPLE	GOLDEN YELLOW
DARK BLUE	LEMON YELLOW
SKY BLUE	YELLOW OCHRE
ORANGE	TERRA COTTA
BURNT OCHRE	SEPIA
DARK BROWN	BLACK
GRAY	WHITE

We'll gladly send you full-length samples free on request. Please state the two or three colors you prefer.

JOSEPH DIXON CRUCIBLE CO.
Pencil Dept., Jersey City, N. J.

Graphite

PUBLISHED BI-MONTHLY BY THE
JOSEPH DIXON CRUCIBLE CO.

AT JERSEY CITY, NEW JERSEY, U. S. A.

In the interests of Dixon's Graphite Productions, including Crucibles, Lubricants, Pencils, Paint, etc. Sent free upon request

Vol. XXVI SEPT.-OCT., 1924 No. 5

On Indifference

THERE is no substitute for downright thoro-going earnestness.

There is no pinch-hitting for zeal.

You say of faith, that it will move mountains—the most appalling of which is the mountain called Indifference.

It is like the vast cliff which overhung the way that Christian went.

Or, coming down to the present day and date, isn't it pictured to the life in slow movies—in which every movement seems an age—long, languishing, tortured, unnatural.

Would that we could put this slow movie to work on the minds of the indifferent.

How this would stir them up as it showed them up!

Strange beings, with work to do, and no care at all how it is done, when it is done—or if it be done at all.

Living in a sort of daze, and working with all the joy and astonishment of an old offender on a rock-pile.

How shall we reward indifference?

Ah, indifference is its own reward.

What To Work For

ONE of the most cheerful and philosophical little periodicals which we have the pleasure of read-

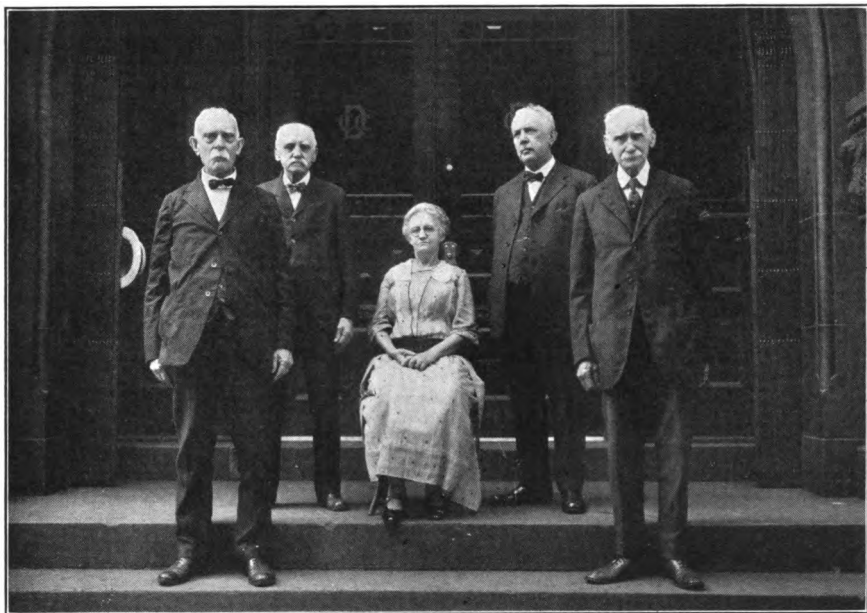
ing is the "Hifire Weekly" issued by the Denver Fire Clay Co., Denver, Colo. In the August 16th issue, we were especially impressed by the following which was written under the caption used above:

"Like children who work for pennies, men work for fame, wealth and power. They struggle all through life for a reward that forever eludes them. If they travelled forward joyously, it would not make so much difference where they went. But so many of them work as if they were being driven by some hateful taskmaster. Andrea del Sarto was not what one would call a true success, but Browning makes him say:

'I am grown peaceful as old age tonight,
I regret little, I would change still less
Since there my past life lies, why alter it?'

"The ideal worker is he who works as joyously as he plays. In fact, there should be no difference between work and play. Both ought to be creators of joyousness. The golfer who loses his temper and throws his clubs about, or who is miserable all of a sunny afternoon because he sliced his drive into the woods, is no true sportsman. And the business man, or worker in any other field of human endeavor, who sits glowering at his desk, who snaps and snarls and makes his associates miserable, is not a true workman.

"If we worked for the enrichment of our personalities instead of for rewards that are not an integral part of our being, we would know true happiness. Heaven is ours when we are expressing ourselves joyously in whatever we are doing, whether that is catching a trout or closing a sale."



Over Fifty Years with the Joseph Dixon Crucible Company

IN the last issue of GRAPHITE we promised to show you a special group of honor composed of Dixonites in our organization for fifty years and more. And on this page above, the group appears, left to right:

	<i>Age</i>	<i>First Year of Service</i>	<i>Years of Active Service</i>
MATTHIAS EARLE	88	1872	52
JOHN WAGNER	71	1874	50
ISABELLA KELLY	68	1874	50
JOHN A. TRACY	64	1874	50
JOHN LINCKS	76	1862	62

These are the oldest roots, as it were, of the great Dixon tree—extending back into the faraway past.

Two of the group knew the Founder, Joseph Dixon, these being John Lincks and Matthias Earle.

We salute these time-tried upholders of Dixon. They are members of a group which is unique in American industrial annals.

Dear Mr. Dealer:
A note for you to read
T.E.

Mr. Leekie, -

The new lead used in
Ticonderoga pencils since last Fall
is surely winning the heart of the
consumers more and more to this
pencil. It is responsible, more than
any other one thing, for the large increase
in sale in an off year -

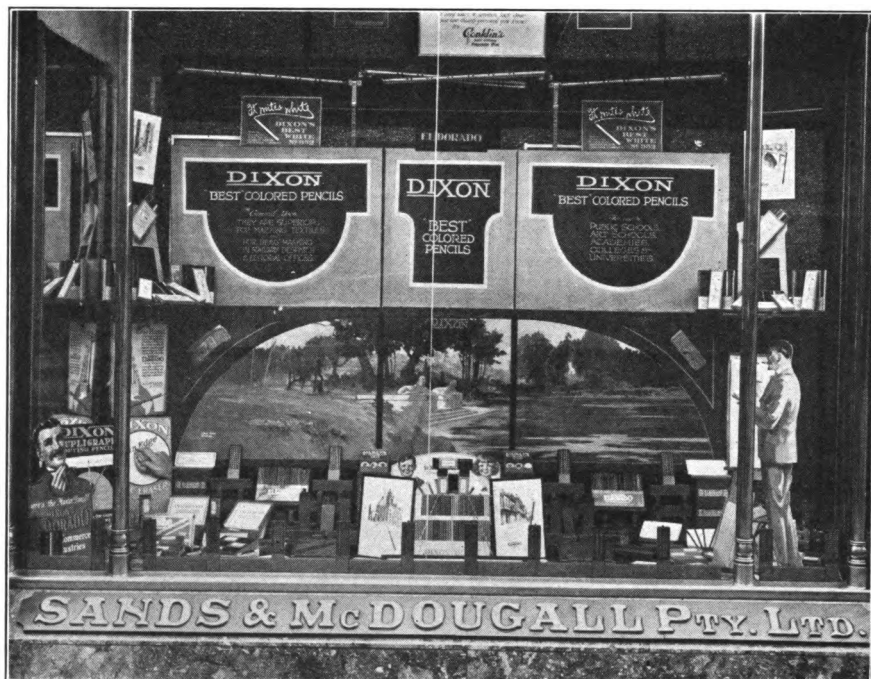
Give even greater emphasis to the
lead in our "Ti" advertising in the "Post",
"American" magazine, et al. Point out
that the No. 2 lead is just the right
degree (neither too hard nor too soft) to
please the average person - aside from
its delightful tone and rugged strength.

H.T.



One of the series appearing in the ELDORADO Advertising Campaign among Draftsmen, Artists, Architects and Engineers.

"Amiens Revisited"
by Earl Horter
with DIXON'S ELDORADO
"the master drawing pencil"



Another Unusual Australian Window Display.

WRITING to our Australian agency, William Lewis, Ltd., on whose selling staff he is, Mr. Noel Crouch tells something about this striking Dixon Pencil window of Messrs. Sands and McDougall Pty. Ltd., Melbourne, Australia.

"Sands & McDougall's display. Under separate cover I am sending you today one mounted photograph of this display. This photograph certainly depicts the window as it is. You will notice in the centre of the window a display case of Dixon "Best" Colored Pencils. From this I have three royal blue ribbons coming on to three framed colored drawings by Hopping. You will just be able to discern the top of the frame, right at the bottom centre of the window. The small Eldorado card at the top of the window was executed for me by an artist friend of mine."

Mr. Crouch's interest in window

displays is a very real one. The present display was arranged by him. Like all good window displays, it speaks for itself. It tells a number of things—the first being that the stock of Dixon Pencils carried by Messrs. Sands and McDougall is a good one. The second thing observed is that the display cards are up-to-date, and there is a sufficiency of them. Then you see that the window dresser has well-developed ideas of balance and grouping. He is not afraid of large masses in his composition and he has a fine sense of rhythm and color.

The man, the window and the goods make the display, regardless of the occasion, which they surmount.

A Rhymed Epistle to Stationers' Associations and to Distributors of Dixon Pencils Having Large Selling Staffs

The Dixon Pencil movie has been moving around in cities, big and small, I swear, where good folks abound. In old New England it has flashed, and in the Empire State, to crowded houses, night and day, a story to relate, of difficulties overcome, of skill and craftsmanship. And praises sweet have come to greet on every smiling lip, this genial little story told on quickly flying strip. Out on the coast where it's the boast that climate and wind and rain have qualities found no otherwhere, this movie has made them fain to see it, not once, but again and again. And down in the South where the gleaming mouth of the grinning darkey is seen, it has come out bold where seats are sold for sights on a silver screen. Up in the North where the storm shoots forth, and rugged are earth and men, along it goes by ice and snows to bring quite into their ken a story bright, which, to indite, was used a pencil not pen. And in the West where the golden quest led multitudes decades ago, the stationers, quick to welcome this "trick" and novel instructive device, have said, "Come along. We're for it strong." And said it at once, which was nice. So please bear in mind it wants to unwind and tell its tale to you. Just sit down and write this very night and ask us to send it. Adieu!

P. S.—*A trifle delayed—but all undismayed—the film is named "How a Dixon Pencil is Made."*



THE Guide Post who sticks to his own road is likely some time or other to be of service to someone.

This Guide Post certainly has always had his feet on the ground—wherever his head may have struck.

And he has tried to guide right all the

time; being afflicted with a conscience.

More than once or twice he has pointed out to distributors the things to take hold of, to get behind, to push, what horse to back.

How easy it is to pick winners in the Dixon Line!

What have you done then?

Alas, "Wisdom cries out in the street, and no man regards it," as fat Sir John wailth.

And it pleaseth us much to bring up the case of EDUCATOR Crayons as being in point.

For it hath been a labor of love to back these fine goods up—always fine, but finer now than ever in their new Display Box.

"A merchandising masterpiece," writes an enthusiastic jobber, not given to soft soaping.

Well, that's just what we planned.

Question: Are you going along with the crowd on Dixon's EDUCATOR Crayons?

Sales-resistance? The word is of no weight, body or significance to this combination of quality, packing and price.



Mr. Mueller Celebrates 25th Anniversary with Dixon

(Reprinted from "Office Appliances")

CHARLES P. MUELLER has a right to feel proud. Twenty-five years ago, when Sam P. Mayer—then manager of the Dixon office at Chicago—hired "Charlie," it was as office boy. It was a splendid opportunity to learn the business from the ground up. This the young lad proceeded to do very earnestly. He also proceeded to grow in value to his house, and to ascend through the ranks to the position of Dixon pencil representative, in which post his silver anniversary found him.

So today "Charlie" Mueller, as he is familiarly known to his many acquaintances in the stationery trade, can look back on a span of twenty-five years spent in faithful,

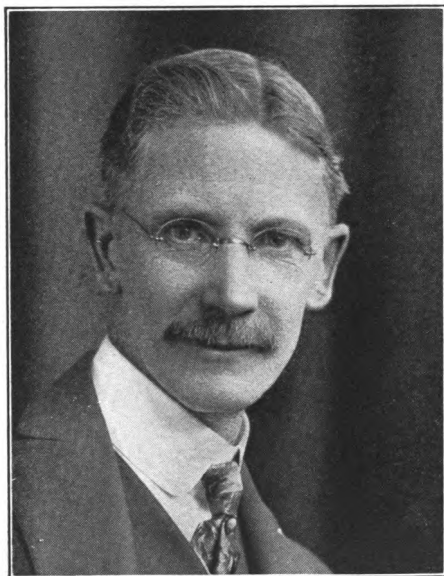
(Continued on page 119)



*“A masterpiece of merchandizing”
says a customer*

Romance of Small Business

By EDWARD MOTT WOOLLEY



Edward Y. Horder

EDWARD Y. HORDER has eight stationery stores in Chicago, which reminds me of the days when I lived in Chicago and bought typewriter paper and pencils at his original little store. He had only one store then, for which he paid \$100 a month. This store is still one of the eight, although occupying much larger quarters in the same building—with the same landlord. Only the rental is \$7,500 a year, now.

Thus do men grow, and we wonder how they have done it.

It was something over twenty years ago that I first knew Horder, for he was the sole salesman behind the counter in his little basement store in the downtown district. Now there are 220 persons on the company's pay roll, and the sales—

well, Horder is modest and prefers not to give figures, but at a guess we can place them in seven figures.

Could a young man repeat this record to-day? Horder says, yes, and right in Chicago. "Young men have a better chance than ever," is his opinion, "if they are willing to pay the price in study and effort."

Edward Horder was born in England; was a choir boy in the Church of England; worked in London stores; came to America in 1883, vowing that he would see the Brooklyn bridge and Niagara Falls.

After working in New York for a time he came to Chicago, and worked for fifteen years in newspaper circulation activities. Then at the age of 40 he resolved to go into business for himself.

I recall very well that many people talked as pessimistically then as the present generation often does about the chance a man has to work for himself. They quite agree with the reputed saying of Dr. Osler that a man at forty is too old to do anything, and should be chloroformed.

Horder had so little money that his chance of making good in Chicago looked painful indeed. After settling with the landlord for the first month, he was able to put only \$150 into stock and fixtures. If I remember correctly, I bought about \$2 worth of that stock. Among the purchases were some items which he did not have; but he got them and sent them to me by mail that night.

Horder says he knew nothing

about stationery when he started; not even the difference in grades of paper and pencils, and such bothersome details. "I got my first lessons by studying stationery catalogues," he says. "But I learned more by studying the wants of my customers, and trying diligently to satisfy them. It was a hard struggle at the beginning, always nip and tuck

to get what the customers asked for and hand it along to them.

"To do this, however, is perhaps the main secret of business success. The ideal toward which we strive in this business is to build such confidence in us that even the largest customers would buy blindfolded if that were necessary." — *Chicago Daily News*.



"Proof of the Pudding"

THE Adams Motor Co., Mobile, Ala., believe that "the proof of the pudding is in the eating," and mailed out the postal shown above to a thousand recent buyers of Ford cars in Mobile. They decided to make this offer so that owners might, in the future, call for and use Dixon's Spring Oil exclusively for treatment of springs.

A later letter advises that the results were extremely satisfactory and wholly justified the expense.

We congratulate the Adams Motor Company on their initiative and also this attractive card.

They believe, and rightly, that the dealer benefits just as materially from local publicity as the manufacturer, and there is no reason why the local dealer should not shoulder the burden of expense.

THE VICTIM. — "Yes, my 'usband's laid up, a victim of football."

"But I didn't know 'e even played the game."

"'E doesn't. 'E sprained 'is larynx at the match last Saturday!" — *The Passing Show (London)*.

NEW GOODS

INDELIBLE COPYING PENCILS

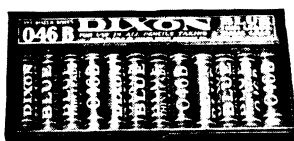


No. **2081**—"Violo" Indelible Copying Pencil, violet finish, plain, with violet copying lead, $\frac{1}{2}$ gross in box.

No. **2081-P**—"Violo" Indelible Copying Pencil, violet finish, gilt point protector, with violet copying lead, 1 dozen in box, 6 boxes in carton.

The specially designed leads in these pencils are unrivaled for hectograph or wet process duplicator work.

THIN COLORED LEADS



No. **046-B**—Blue Thin Leads.

No. **046-R**—Red Thin Leads.

No. **046-G**—Green Thin Leads.

No. **2046**—Indelible Copying Thin Leads.

One dozen leads to box, 12 boxes to carton.

Self-pointing thin leads for use in all standard types of small-bore mechanical pencils.

NEW GOODS

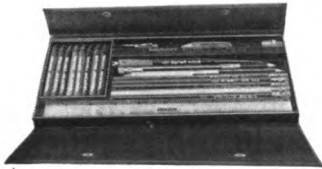
PENHOLDER ASSORTMENT

No. 3035—**Penholder Assortment Display Stand** containing $\frac{1}{4}$ gross of popular styles of cork and rubber grip penholders, assorted finishes.

A new jobbing number having no peer in attractiveness.



PENCIL AND STATIONERY SETS



No. 546—"Classmate" **Stationery Set**. Beautiful leatheroid box, assorted colors, contains 8 colors of "EDUCATOR" Wax Crayons, 1 pencil and ink eraser, 1 "WEDGE" eraser tip, 1 pencilknife clip and

sharpener, 5 pencils, 1 ferrule holder with two hexagon, sharpened, half-length pencils, 1 penholder, 1 combination pen and pencil case, 1 ten-inch ruler.

Inside cover of box shows a table of equivalents in weights and measures and other information of interest and value to every student.

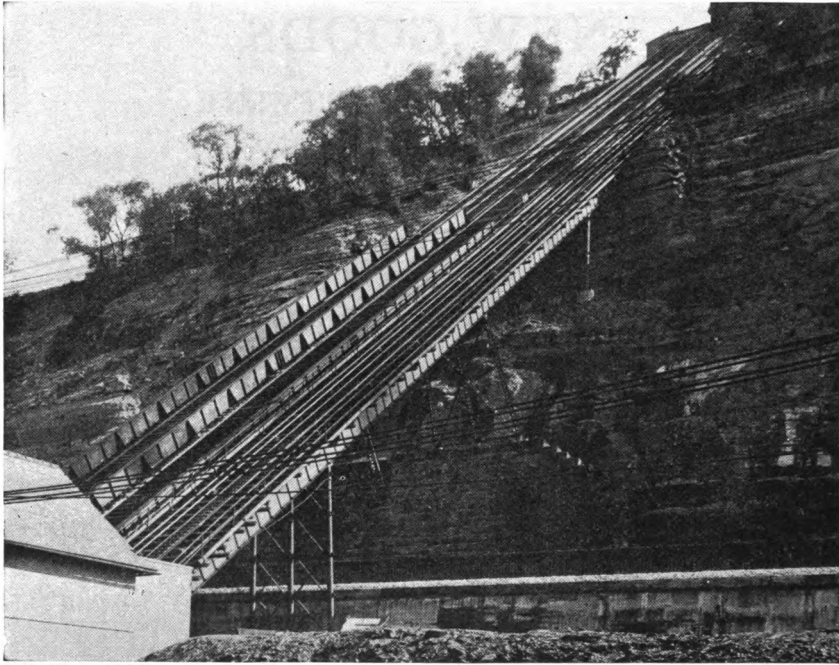
It's a "husky," as one enthusiastic youngster shouted.

No. 556—"Junior High" **Pencil Set**.

A fine, real leather pouch with coin purse attached, containing four pencils and one penholder. Packed one dozen to a box, red, blue and green colors equally assorted.

Something new and fine in the Dixon Line.





Monongahela Incline Railroad, Pittsburgh, Pa.

Four Tracks, Thirty Degree Incline—370 Feet High

THE above structure has appeared in GRAPHITE before as evidence of the longevity of Dixon's Silica-Graphite Paint.

We are informed that this incline has recently been repainted with Dixon's for the third time. Dixon's Paint was first applied in 1903 and this lasted until 1914, a service of eleven years, when it was repainted. A period of ten years has elapsed since that time before it was found necessary to repaint again.

As may be seen, the main line of the Pennsylvania Railroad passes under the lower part of the struc-

ture, the stacks of the engines coming within three or four feet of the incline.

Even with this handicap, Dixon's Silica-Graphite paint has successfully withstood attacks of dampness, heat, cold, gases, attrition of cinders, etc., for ten-year periods.

A paint that has such a record for service should be considered, even though its first cost is higher. The cost per year of service is the only fair way to judge paint costs and Dixon's Paint will figure the lowest on this basis.

Write for Booklet 190-B and other service records.



Pencil Week Display—Bleakley Brothers, Camden, N. J.

SOME things are made in Camden, N. J., which all the world knows about, uses, likes. We need not name them. Such a hive of industry calls for a stationery service to match it—and Bleakley Brothers furnish that service.

We speak with particular and knowing respect of the windows that flank the entrance to their store (this word *store*, by the way, is used too much, losing preciseness of meaning thereby; but it is a real store we're speaking of now). You can get a display in each of these windows—and passersby can get the display with a turn of the head.

Speaking of matches, again—the window dresser evidently thought our new “Ti” and ELDORADO screens, with the ELDORADO photogravures, would go well with the window. They did, too. You can see it at a glance.

And then, what you can't see so well in the reproduction, there was a fine original ELDORADO pencil drawing of the late John Wanamaker as the center of attraction. This was done by an artist, Mr. Loh,

whose initials we don't know, who kindly loaned it for display to Mr. Fred Hutchinson of Bleakley Bros.

Mr. Mueller Celebrates

(Continued from page 112)

aggressive work in one of this country's great industrial organizations.

Readers who may meet Charles P. Mueller after reading this article, should remember to shake hands with him, and to congratulate him; just as his associates in the Joseph Dixon Crucible Company did, on having completed meritoriously such a period of service. And ask him to show the ring which his company sent him to mark the completion of twenty-five years' association with that concern. It will be necessary to ask him to show that ring because, although he is alert and aggressive, and not to be denied where the interests of his company are concerned, he is a man who bears his honors with becoming modesty at all times. So we repeat—Charles P. Mueller has a right to feel proud—and so has the Joseph Dixon Crucible Company.



For marking dark wet logs

DIXON
WHITE No. 523
LUMBER CRAYONS

Write for samples to
Joseph Dixon Crucible Co.
Jersey City, N. J.

Graphite

VOL. XXVI

NO. VI

NOVEMBER - DECEMBER 1924



Christmas Greetings

JOSEPH DIXON CRUCIBLE CO.

ESTABLISHED
1827

JERSEY CITY, N. J., U. S. A.

INCORPORATED
1868



*Miners, Importers and Manufacturers of
Graphite, Plumbago, Black Lead*



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A MAGAZINE PUBLISHED BY THE
JOSEPH DIXON CRUCIBLE COMPANY

AT JERSEY CITY, N. J.
U. S. A.

Volume XXVI

NOVEMBER-DECEMBER, 1924

Number 6

Design of the Florianopolis Suspension Bridge

**New Stiffening Truss Produces More Rigid Bridge With Less Material—
Main Chains Made of Heat-treated Eyebars With Yield Point Above
75,000 Lb. per Sq. In.—Towers Designed to Rock on Base**

By D. B. STEINMAN, Consulting Engineer, New York

Courtesy ENGINEERING NEWS-RECORD

THE Florianopolis Bridge (main span 1,113 ft. 9 in.), now under construction in Santa Catharina province, Brazil, will be the longest-span bridge in South America and the longest eyebar suspension span in the world. In addition, the structure will be of interest to engineers as the first example of a new departure in suspension design, and as the first application of an important new structural material.

Holton D. Robinson prepared the design, as consulting engineer for Byington & Sundstrom, of São Paulo, Brazil, who had already secured the general contract from the State of Santa Catharina. Minimum cost was the outstanding requirement governing the design.

New Form of Stiffening Trusses—The form of stiffening construction adopted for the Florianopolis Bridge departs rather radically from precedent. The following considerations led to its conception:

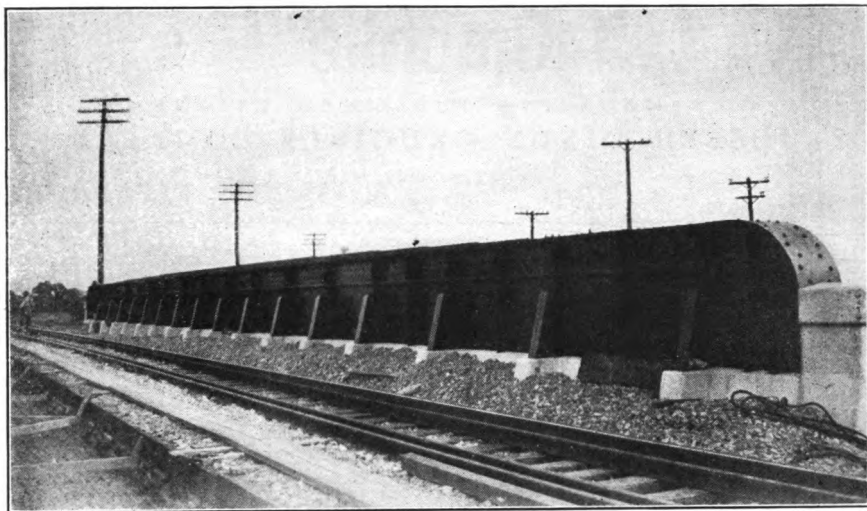
In the central portion of the conventional form of suspension construction, the cable, which sustains a heavy tensile stress is in close proximity to the upper chord of the stiffening truss, where compression is the governing stress. Such juxtaposition of two principal elements carrying opposing stress represents a waste of material, or, rather, a neglected opportunity for increasing economy. By combining the two opposing structural elements a great saving can be effected: the result is a subtraction of stresses instead of an addition of sections. There is thus secured a partial neutralization of the maximum tensions in the middle portion of

the cable, and the corresponding portion of the upper chord of the truss is dispensed with.

This utilization of the cable as the upper chord of the stiffening truss should be limited to the middle portion of the span. To extend this construction to the ends of the span would not be economical, because the saving of the top chord in the outer quarters would be offset by the increase in length of the web members in a region where the stiffening truss has its maximum shears. Moreover, beyond the quarter points there would be an addition instead of a subtraction of stresses, since the condition of loading that produces maximum tension in those top chords is one that produces nearly maximum tension in the cable.

Another neglected opportunity for increasing economy and efficiency in the conventional form of suspension construction is represented by the use of parallel-chord stiffening trusses. For maximum economy the truss should have a profile conforming to the variation of maximum bending moments along the span, a principle which receives recognition in the design of other structures, such as simple trusses, cantilevers, continuous trusses and arches. Since the economic depth at any section is a function of the governing bending moment, a truss should have its greatest depth at the points of greatest bending moment, and should be made shallow where the bending moments are comparatively small. In a suspension-bridge stiffening truss, the greatest bending moments occur near the quarter-points of the span; consequently the economic profile of a stiffening

(Continued on page 126)



Ellicott Road Bridge, Depew, N. Y.

New York Central Railroad

WE feel that some of the construction details of this bridge will be of interest to our readers, so quote from "Engineering News Record":

"The required span and the sharp skew of the crossing, together with the ballasted solid floor construction which it was desired to use, and the extra floor width required on account of the curvature of the track, combined to make a very heavy structure necessary. The length of the span is 118½ ft. center to center of bearings. Ordinarily trusses would have been used, but the great skew would have made the portal bracing of a truss bridge very long and inefficient. Plate girder construction was therefore adopted, although the possibilities of this type had to be pushed virtually to their utmost to meet the conditions. In consequence, the main girders weigh 130 tons each, and are probably the heaviest ever built.

"To give a solid floor as required for a crossing over a street, transverse floorbeams are spaced about 16 in. on centers; each consists of a 27-in. I-beam weighing 90 lb. per foot. A continuous ¾-in. deck plate riveted over these beams and a waterproofed reinforced-concrete covering slab on this plate, with a protection layer of concrete over the

waterproofing, carrying the ballast. The floorbeams rest on the lower flange angles and are riveted to the sides of the flange by end connection angles, but the riveting in this connection is proportioned to take the full end reaction without dependence on the bearing on the flange angle.

"The large required flange section is provided by both side plates and cover plates. The side plates of the bottom flange were made sufficiently deep to receive the floorbeams; those of the top flange were made narrower and were supplemented by a pair of longitudinal angles along the lower edge. The bending resistance of the complete section was computed by moment of inertia. Rivets of 1-in. diameters were used in assembling the girders. In detailing the riveting the rivet values were reduced both for number of plates connected and for length of grip in excess of 4-in., under the regular specification clauses of the road.

"As the girders are loaded unsymmetrically because of the skew of the bridge, they have a much heavier reaction at one end than at the other. Web reinforcement was necessary at the heavy end to take the shear. This consists of a ¾-in. plate, on the inner side of the web. The flanges, however, are symmetrical about the single web, the web reinforcement

(Continued on page 141)



Residence, T. N. Chambers
Santiago, Chile

MR. T. N. Chambers, the representative in Chile, Peru and Bolivia for the Walworth International Company, foreign sales representatives of the Dixon Company, believes in practicing what he preaches and has painted all the exterior woodwork of his home, shown above, with Dixon's Silica-Graphite Paint—Dark Red color. This includes the shingle roof, doors, windows, fence, leaders, etc.

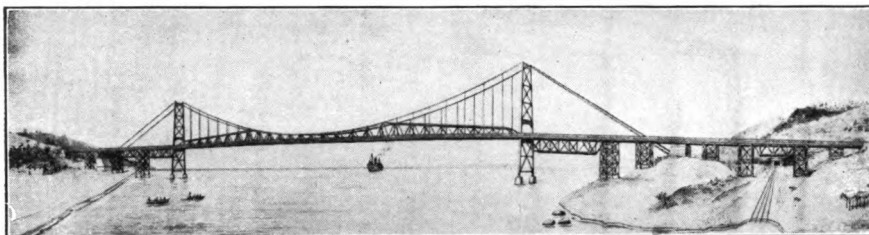
While Dixon's Paint is generally known as the longest life paint for exposed metal work, it is equally good for wood and particularly

shingle roofs. We have many letters from owners testifying as to the many advantages of using Dixon's for shingle roofs and other exterior woodwork.

Dixon's Paint will outlast a plain decorative paint when used for this purpose and because of its long life and tenacity will prove to be more economical to use.

Those having a problem such as this will do well to write us for long service records along this line.

We congratulate Mr. Chambers on his new home and know, as well as he does, that the paint question may be dismissed for years.



FLORIANOPOLIS SUSPENSION BRIDGE

Design of the Florianopolis Bridge

(Continued from page 123)

truss is one having maximum depth near the quarter-points and minimum depth at mid-span and at the ends. This conclusion is strengthened by the fact that the shears in a stiffening truss are a minimum near the quarter-points and attain maximum values at the middle and ends of the span, so that a truss-profile with maximum depth near the quarter-points also gives economy in web members since it provides the shallowest depth in the regions where the web stresses are greatest. Such a profile yields the additional advantage of greater uniformity of required chord-sections throughout the span. A wide range of variation in required sections generally involves a waste of material in those chord members where minimum sections are required.

Another consideration governing truss-depth is that of efficiency in reducing deflections. The most serious deflection of a stiffening truss, as measured by the resulting deflection gradients, is produced under the condition of live-load covering approximately one-half of the span. Half-span loading produces a downward deflection of the loaded segment and a somewhat smaller upward deflection of the unloaded segment, with a maximum deflection gradient at the loaded end. The magnitude of this deformation depends upon the truss-depth at and near the quarter-points. Calculations show that to limit the deflection gradient to 1 per cent a truss depth of $1/45$ to $1/40$ of the span is required. A parallel-chord stiffening truss of such depth (as illustrated by the Williamsburg bridge) would render the structure unsightly. In order to secure the requisite stiffness without resorting to a stiffening truss of clumsy proportions, we must abandon the parallel-chord type and adopt an outline providing the extreme depth only where it is needed, namely in the vicinity of the quarter-points of the span.

The foregoing considerations show that the

logical directions for improvement of conventional suspension design for increased economy and efficiency are along two lines: (1) Utilization of the cable as the top chord of the stiffening truss (preferably limited to the middle half of the span); and (2) variation of truss profile to give maximum depth near the quarter-points of the span. The two requirements, fortunately, are congruous; complying with the first automatically facilitates compliance with the second. The result is the new form of suspension construction adopted for the Florianopolis Bridge.

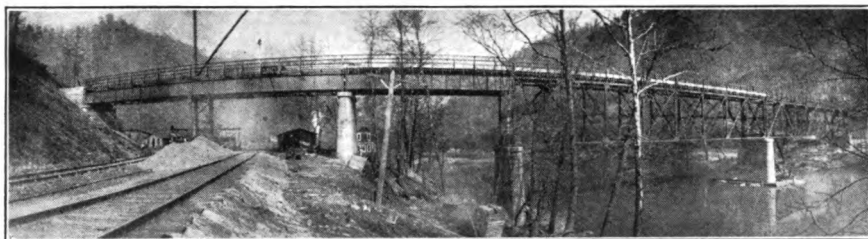
Comparative Economy—The bridge had already been designed along conventional lines, when the decision to substitute eyebar chains for wire cables prompted consideration of the revised truss design and facilitated its application. The parallel-chord stiffening truss was 25 ft. deep throughout; the revised layout, utilizing part of the cable (or chain) as top chord, provides a truss with depth varying from 22.5 ft. to 42.5 ft.

In the first sketches for the new design, the upper chord in the outer quarters of the span was made curved so as to produce an effect of symmetry about the quarter-points. This yielded a most pleasing outline. Straight chords were substituted, however, in deference to the preference expressed by our client.

Comparative cost-estimates of the two designs demonstrate a material saving in favor of the new design. In addition to the major elements of economy outlined in the preceding general discussion, there are a number of incidental savings arising from the change in design. The new form of construction yields the following contributions to a reduction in the total cost of the structure:

(1) Saving the material represented by the middle half of the top chord of each stiffening truss; (2) a general saving in the remaining chord material resulting from the use of an economic truss-profile conforming to the variation of bending moments along the span, and in particular, a material reduction in the maximum chord-sections previously re-

(Continued on page 127)



Bridge

Hartland, Clay Co., West Virginia

THIS bridge was built for the West Virginia State Road Commission by the Roanoke Iron & Bridge Company and Dixon's Natural Paint was used for the field coat.

Because of the peculiar oily nature and flake formation of the pigment, Dixon's Paint has no equal in keeping moisture away from the metal. Therefore, bridges or other metal work properly painted with it resist corrosion longer than if painted with other paint. This means that Dixon's, per year of service, costs less.

Being an elastic paint, it is not affected by expansion or contraction, and the pigment is unaffected by acids, gases, etc.

It is recommended and used for all exposed metal or wood work.

Silica and graphite, the pigment of Dixon's Paint, successfully withstands heat, sulphurous gases, and atmospheric conditions. It is practically inert and does not combine chemically with the oil, like many metallic pigments.

Design of the Florianopolis Bridge

(Continued from page 126)

quired in the vicinity of the quarter-points of the span; (3) a saving in details and in minimum sections resulting from the greater uniformity of required chord-sections throughout the span; (4) a saving in web material on ac-

count of the reduced truss-depth in the regions of maximum shear; (5) dispensing, in the middle half of the span, with the sub-verticals previously required to half-length the compression-chord members which are now replaced by tension members; (6) dispensing with the intermediate top laterals previously required to half-length the same compression-chord members in a horizontal plane; (7) as a result of these various savings, a reduction of about one-third in the total weight of the stiffening truss, and a consequent saving in all portions of the structure affected by the dead-load of the truss; (8) a saving in chain (or cable) sections resulting from the reduced dead-load of truss and the consequent reduced dead-load of chain; (9) saving of the suspenders in the middle half of the span and a reduction in length of the remaining suspenders; (10) a reduction 6.5 ft. in the case of the Florianopolis Bridge) in the total height of the towers in consequence of the reduced distance between cable and lower chord; (11) a saving in the towers resulting from the reduction in height combined with the reduction in dead-load of truss and chain; (12) a material saving in the anchorages resulting from the reduced dead-load of truss and chain and the reduced elevation of the backstays.

In the case of the Florianopolis Bridge, a large portion of the economy yielded by the change of design was not capitalized but was turned back into the structure in the form of reduced unit stresses to provide a greater margin of safety for future load-increase. Thus the design stress for the stiffening truss was reduced from 20,000 to 18,500 lb. per sq. in. (actually 14,000 as calculated by the exact method); and the unit stress in the chain was reduced from 50,000 lb. per sq. in. to 46,500.

Rigidity of the Design—While the governing consideration in the change of design was that of economy, the change yielded greatly increased rigidity as an incidental advantage. The maximum deflection under full-span

(Continued on page 130)

Dixon's Paint for Marine Work

THE following letter from H. A. Tarbox, Chief Engineer, is a remarkable recommendation of Dixon's Silica-Graphite Paint for use as a bottom paint in marine work.

MACMAHAN, ME., Oct. 7, 1924.

JOSEPH DIXON CRUCIBLE CO.

49 Federal Street,
Boston, Mass.

Gentlemen:—During the past two years we have been making careful tests of bottom paint for the protection of exterior of boats, launches, and vessels in service in the Atlantic Ocean.

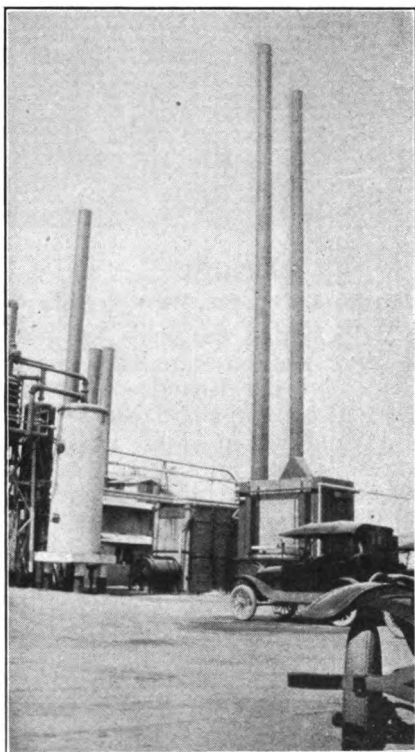
In conducting these tests we have used high-grade copper bottom paint of well-known makes and Dixon's Silica-Graphite Paint, Olive Green color. We find that Dixon's Silica-Graphite Paint is far superior to the other paints and can be used at a saving of about 100% in first cost, and a most satisfactory saving in service rendered. One coat of Dixon's will give better service than two coats of standard copper anti-fouling paint purchased at a much higher price.

For the reasons we have given, it will be our plan to use Dixon's paint exclusively for this work another season on our boats which will enter commission early in June. We can highly recommend it to all those who desire the best as well as the most economical coating for the exterior of hulls above as well as below the water line.

Very truly yours,
(Signed) H. A. TARBOX,
Chief Engineer.

Dixon's Silica-Graphite has been used extensively in the marine field for the protection of smokestacks, hatch covers, and other exposed metal or wood work. It has given remarkable service on this class of work because of its ability to withstand the damp, salt air.

We are glad to know that it has proved to be such an excellent bottom paint.



Gilmore Oil Company

Vernon, Cal.

ABOVE are shown the stacks at the Gilmore Oil Co., Vernon, California, which are protected by Dixon's Silica-Graphite Paint.

Dixon's has proved to be extremely popular with California oil refineries as a protective paint due to its long life and low cost per year of service.

Previous issues of GRAPHITE have shown a number of these refineries and reports come to us that Dixon's is giving excellent service.



THIS Eldorado drawing shows the quaint houses and narrow, winding streets in Grasse, a town in the French department of the Alpes.

In this picturesque old town, celebrated for its perfumery, J. H. Fragonard, the famous painter, did his best remembered work. Here, too, Earl Horter has made some of the most interesting pencil drawings of his present trip through France

and Italy with Dixon's Eldorado—"the master drawing pencil."

SAMPLE OFFER—Write for full-length free sample of "the master drawing pencil" and of Dixon's "Best" Colored Pencils. In their field, the "Best" Colored Pencils hold the same position of supremacy as Dixon's Eldorado. **JOSEPH DIXON CRUCIBLE COMPANY**, Pencil Dept. 190-J, Jersey City, N. J.

Graphite

PUBLISHED BI-MONTHLY BY THE
JOSEPH DIXON CRUCIBLE CO.

AT JERSEY CITY, NEW JERSEY, U. S. A.

In the interests of Dixon's Graphite Productions, including Crucibles, Lubricants, Pencils, Paint, etc. Sent free upon request

Vol. XXVI Nov.-Dec., 1924 No. 6

A Merry Christmas

THIS is our wish and greeting to each and every reader of GRAPHITE—not only for the present year, but for all the years to come.

After all, the Christmas spirit is strangely similar to that of human fellowship. As such, it might well be continued throughout the year, softening the harsh crash of market place.

It is a spirit to foster and nurse—meaning unselfishness, liberality, charity, peace and good cheer. All good attributes and worthy of cultivation by all.

Christmas Greetings are usually allied with Best Wishes for the New Year, so we take this opportunity of wishing you, one and all,

A Happy New Year

Design of the Florianopolis Bridge

(Continued from page 127)

loading is only 1.88 ft. or $1/592$ of the span; and the maximum deflection under half-span loading is only 1.36 ft. or $1/820$ of the span, with uplift in the unloaded half practically eliminated. The actual deflections will be about 25 per cent less than these calculated values, since the calculations were based on the "approximate method" and since no allowance was made for the stiffening effect of details. These deflections are approximately one-fourth of the corresponding values for the previous (conventional) design. Since the Florianopolis Bridge is designed to carry a railway as its principal element of live-load, this reduction of the governing deflections is of practical significance.

About 25 per cent increase in rigidity may be attributed to the substitution of eyebars for wire cables; the remainder of the 300 per cent increase is the direct consequence of the new form of stiffening construction.

The following elements of the new design contribute to this increase in rigidity: (1) The revised truss-profile is more efficient in resisting deflections, since it provides maximum depth in the regions of greatest bending moment; (2) the depth at the quarter-points has been made nearly twice as great as in the previous design, and the stiffness in the vicinity of the quarter-points is the principal factor in determining the rigidity of a suspension bridge under the critical condition of half-span loading; (3) the functioning of the full section of the cable as top chord of the stiffening truss in the middle-half of the span greatly increases the moment of inertia in that portion of the span; (4) the fact that live-load introduces tension in the middle half of the top chord (by virtue of its forming part of the cable) further reduces mid-span deflections.

As a result of these various factors, the change of design yields greater stiffness with less material in the structure. In approximate figures, the design is four times as rigid with only two-thirds as much material in the stiffening truss. Thus, greater efficiency has been secured through a more scientific design of the suspension stiffening system.

In addition to the marked increase in vertical rigidity yielded by the new design, the lateral stiffness is improved by the large cable (or chain) sections functioning as wind-chords in the middle-half of the span; and ideal longitudinal rigidity is secured by the direct connection of the truss to the cables. Longitudinal or braking forces are carried directly

(Continued on page 143)

DIXON'S 677

For Transmissions and Differentials



Dixon's 677 may be obtained in steel drums with pump, providing a quick, clean means of lubricating gear boxes. A necessity in every garage and service station. Write for quotations.

UNAFFECTED by low temperatures, it shows minimum power losses during winter months and *permits gears to shift as easily in zero weather as in mid-summer.*

Dixon's 677 clings to gear teeth under load and when the gears are idle. It does not leave them unprotected but furnishes at all times a film of lubricant that wears and wears.

Operators of fleets of buses or trucks will find that Dixon's 677 lasts longer, reduces repairs and generally lowers operating expenses.

Write now for Circular 190-G and prices

JOSEPH DIXON CRUCIBLE COMPANY

Jersey City, N. J., U. S. A.



Established 1827

MAKERS OF QUALITY LUBRICANTS

For Spur and Bevel Gears Use Dixon's Gear Lubricant No. 677

For Worm Drives Use Dixon's Gear Oil No. 675

For Universal Joints Use Dixon's Grease No. 672



PENCILS

*With the Famous Dixon "BEST"
Colored Leads~*

RED	No.	—	4	9
BLUE	No.	—	5	0
BLACK	No.	—	5	1
YELLOW	No.	—	5	3
GREEN	No.	—	5	4

Send for Colored Circular

JOSEPH DIXON CRUCIBLE CO. JERSEY CITY, N.J.

Power Show, 1924

DURING the week of December 1st to 6th, while the meetings of the American Society of Mechanical Engineers, the American Society of Refrigerating Engineers and other technical associations were being held in New York, there was in conjunction with them the Third National Exposition of Power and Mechanical Engineering in the Grand Central Palace in the same city.

The exhibits, which occupied three floors of the Palace, included a complete showing of all lines of power plant apparatus and accessories, materials, handling equipment, and many showings of heating and ventilating apparatus, refrigerating machinery, machine tools, and machine shop equipment. The Exposition interested all types of mechanical engineers, operating men, and industrial executives.

The Exposition is now attaining the ideals of its Advisory Committee and founders in that it is becoming a national clearing house for new developments and ideas in the field of power generation and utilization.

Historical exhibits showing the development of certain phases of mechanical engineering were among the educational displays found in the Exposition.

A large number of schools of mechanical engineering sent delegations of students and instructors to the Exhibition, and a series of lectures were planned to give the students, and others interested, a complete picture of recent developments of power plant and mechanical engineering practice with the Exposition as a background.

The growth of this Exposition has been remarkable. Filling a long needed want, this was, however, to

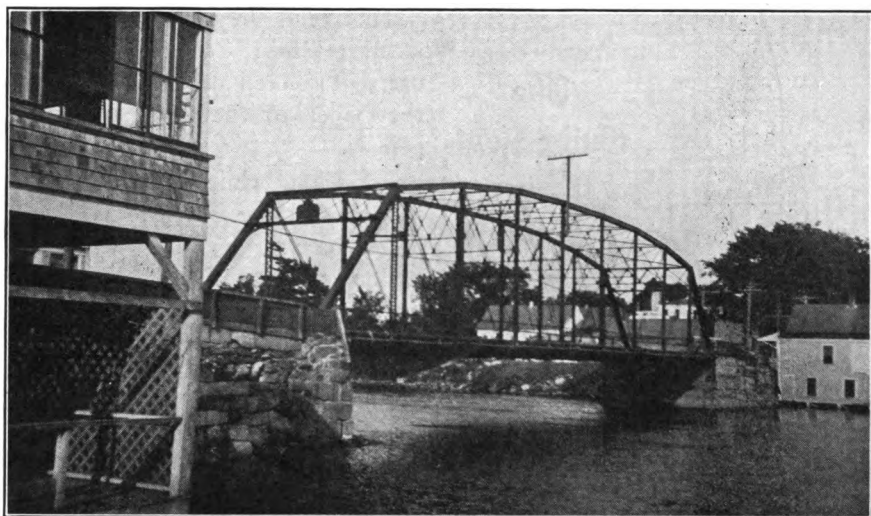
be expected. The first Exposition comprised 125 exhibitors, the second 260, and this one will number over 350. In a like manner, the attendance has been increasing from 47,580 the first year, to 62,079 in the second, and a conservative estimate this year anticipates 75,000.

The constant growth of the Exposition is interesting proof that the industries related to power and mechanical engineering are in a state of rapid development, and need the inspiration and ideas started at the Exposition. The growth of the Exposition has also been an object lesson to these industries, for in addition to giving the engineering and general public an idea of the size and importance of the industries, it has dignified the industries in the eyes of those engaged in them and presented a perspective of functions and methods that nothing else could have provided.

Other associations which recognize the Exposition as an unusual opportunity to secure engineering ideas and information and which during the past Expositions were well represented in the attendance, some of them holding chapter meetings at the Exposition, were the National Association of Stationary Engineers, New York Association of Building Superintendents, New York Building Managers' and Owners' Association, the Blue Room Engineering Society, Ocean Association of Marine Engineers, and others.

Dixon's Graphite Products were exhibited in Booth 508, third floor, and many stopped to learn of some of the more recent developments in graphite and graphite lubrication.

One of the exhibits in this booth was a large flash sign which is reproduced on page 143.



Highway Bridge

Between Damariscotti and New Castle, Me.

THE above bridge was painted this past summer with Dixon's Silica-Graphite Paint, and we take pleasure in showing this view.

County and bridge engineers are realizing more and more that first cost is not the proper basis for purchasing paint, and now thoroughly investigate the long service records of a paint before finally selecting a bridge paint.

We are always glad to have Dixon's Paint judged on this basis of long service rather than price per gallon for we are confident of its selection.

Dixon's Paint has been on the market for over 60 years and during this period has steadily built up an enviable reputation for long service.

Engineers planning to do spring painting should write us now and get a list of bridges, etc., and a record of service given by Dixon's Paint.

New Dixon Displays

THERE is now in process of printing, two new Dixon displays—one for Dixon Graphite Products, including belt dressing, paint, flake graphite, pipe joint compound, etc., and the other display for Dixon's Automobile Lubricants.

These displays will be ready during January and will be sent out to Dixon dealers in time for use in spring displays.

They will be lithographed in light colors and measure 30 inches high by 40 inches wide. Both displays show applications of the products illustrated and will prove to be an aid to our dealers in displaying Dixon's Graphite Products and Automobile Lubricants.

Dealers who wish to write now for these displays will receive them as soon as delivered.



**The
Guide Post
Wishes
All of You
a Very
Merry
Xmas**

AND is moved by the wish to preach a merry little sermon on a topic of importance.

Bank Clerks and Accountants; Newspaper Editors; Editors of Magazines, all and sundry; School Teachers; in a word, all who wield a **BLUE PAPER PENCIL** or a paper pencil, red, yellow or green; all these are invited to lend an ear unto this pleasant discourse.

For a new, and to them very acceptable addition has just been made to the Dixon Line.

Here it is:

**DIXON
PAPEREX
PENCILS**

What are *they*?

Well, they are paper-wrapped pencils containing the renowned Dixon "Best" Colored Leads.

Why have we added them to the Dixon Line?

To extend the service of our unrivalled "Best" colored leads to users of colored pencils who prefer the paper to the wooden colored pencils.

For a long while we have worked to perfect these pencils. We have taken our time, and we have patiently wrought that this might be brought about.

Now, there are no colored leads anywhere made to be compared with our **BEST** colored line in smoothness, in vividness of color, in "blendability," in durability. All the Stationery World knows this; and exacting craftsmen all over this country will have no others for their work.

If, therefore, you like a paper-wrapped colored pencil, remember well this name: "**PAPEREX.**" If you want the **RED**, call for "**PAPEREX,**" No. 49; if the **BLUE**, "**PAPEREX,**" No. 50; if the **BLACK**, "**PAPEREX,**" No. 51; if the **YELLOW**, "**PAPEREX,**" No. 53; if the **GREEN**, "**PAPEREX,**" No. 54.

Be among the first to buy and try these new goods. Ask your stationer for them. And be sure to write us for any further information about them that you wish.

"**PAPEREX**" is the last word in paper-wrapped colored pencils. There is a pleasant surprise in store for you when you first write with them.

Almost self-unwinding!

DIXON'S Graphite Cup Greases combine the superior lubricating qualities of the best mineral oils with the simplicity and economy of hard grease.

They are softer than the average cup grease, so begin to lubricate as soon as there is motion. Most greases do not begin to lubricate until after the parts are warmed up—that is, they have to be thawed out by the frictional heat. Dixon's Cup Greases are all thawed out and ready to function—they flow with the revolving parts. They also keep the surfaces from metal contact.

Wherever possible to use cup grease around the plant—on pumps, engines, shafting and other machinery, Dixon's will give better lubrication at lower cost.

Write for Circular No. 190-R.

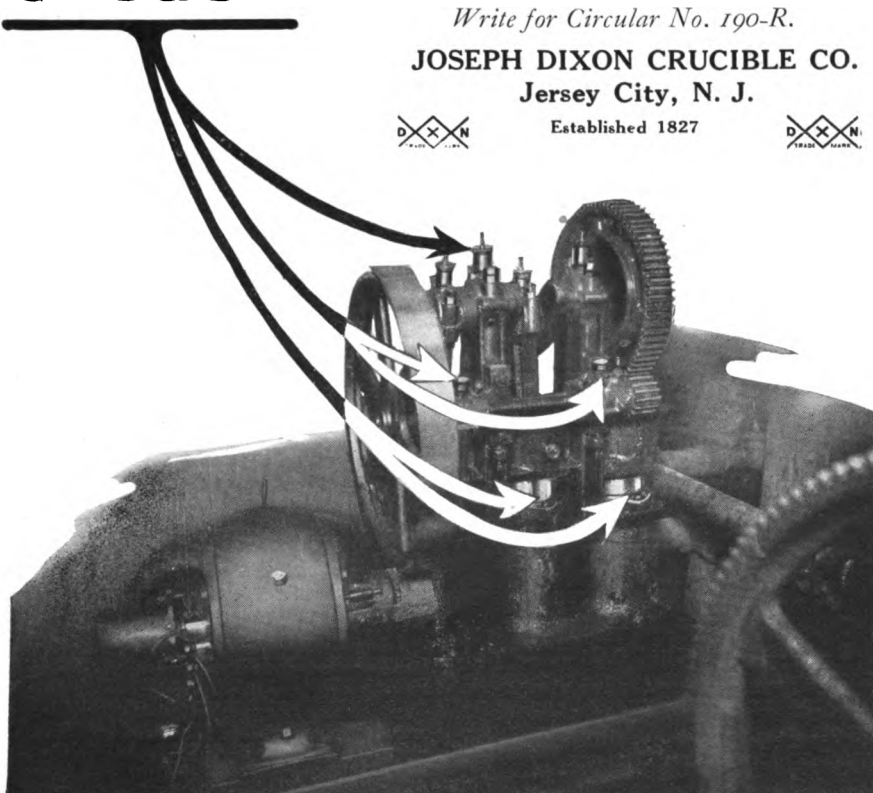
JOSEPH DIXON CRUCIBLE CO.
Jersey City, N. J.

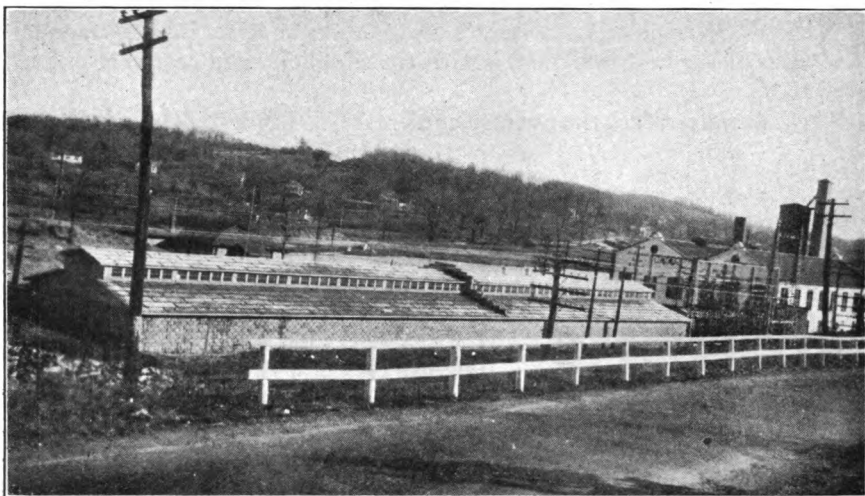


Established 1827



Dixon's Graphite Cup Grease





Orange Plant, Orange & Rockland Electric Co.

Monroe, N. Y.

DIXON'S Silica - Graphite Paint is used on the above plant to protect it from the ravages of corrosion.

As a long service paint, Dixon's is unexcelled because of the pigment flake silica-graphite. This pigment is of such a nature as to successfully withstand the effects of gas, acids, weather and other rust-producing agents.

Many industrial concerns have learned that it is more economical to buy paint on the basis of "cost per year of service" rather than "cost per gallon." On this basis Dixon's Paint should be selected.

We have many testimonials showing a service from five to ten years.

Such an enviable record as this means that painting costs are cut in half by making frequent repainting unnecessary and eliminating the cost of labor and material for repainting.

A Testimonial on Dixon's Paint for Roofs

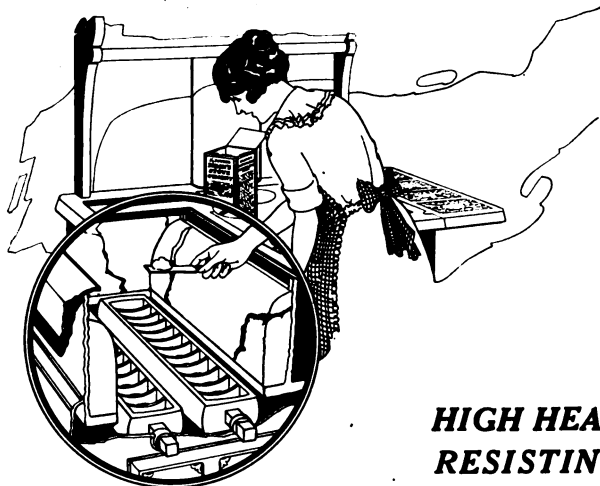
ROBERT Fletcher, D.Sc., Civil Engineer, lately Director, now Professor Emeritus Thayer School of Civil Engineering, Dartmouth College:

Gentlemen:—Replying to your inquiry of 21st inst., forwarded to me in this place of summer sojourn, I can only say that I use your Graphite Paint only on piazza and porch roofs. If I had to renew it every four or five years, the recommendation of it would not be very strong.

The fact is that said roofs were covered with old time *honest* tin-plate in 1876, and until 1920 (the date your note) renewals of the paint had been very few and far between. If the covering had not been abused in the operation of removing snow and ice in winter—which called for small repairs by a plumber—the greater part of the surfaces had little need of repainting.

In spite of the severe weather-action on a very low pitched surface in our northern climate (lat. $43\frac{3}{4}^{\circ}$), the previous coat of paint had served effectively during an unremembered number of years. If your last consignment does not endure at least 10 or 12 years it will not sustain its reputation. I cannot expect to live long enough (or enough longer) to be obliged to renew the last coat with which you supplied me.

(Signed) ROBERT FLETCHER.



**HIGH HEAT
RESISTING**

DIXON'S STOVE CEMENT

***For cracked or worn`stove,
range and furnace linings***

Easily prepared with water into a thick paste.

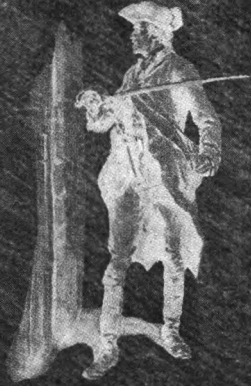
Dries quickly—a little molasses added to water quickens drying.

Produces as good as new linings.

Costs little and saves expense and delay of getting new linings.

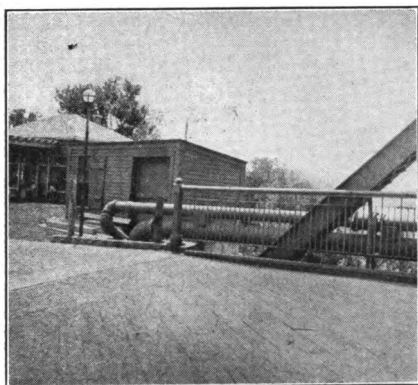
Its quality is absolutely uniform. No variation from a high standard.

SAVES THE COST OF NEW LINING



“Ticonderoga” is a lead pencil—
all pencil, and mostly lead. This
is not a paradox: but the simple
delightful truth, as you’ll find
out by writing with

DIXON
“TI-CON-DER-OGA”
The Business Pencil



Bridge House
Haverhill, Mass.

READERS will recall our illustrating the Haverhill Bridge in GRAPHITE some months ago. Now we are pleased to show the bridge house which is also painted with Dixon's Silica-Graphite Paint.

A wonderful service record (18 years) was made by Dixon's Paint on the bridge and we are sure that the record on the house won't be far short of the bridge record.

Ellicott Road Bridge

(Continued from page 124)

ing plate taking the place of the inner flange plate of the girders.

"Maximum depth as limited by shipping possibilities was chosen for the girder. This is usually 10 ft., but in the present case the limit was carried up to 10½ ft. depth of web, or 126½ in. over flange angles, making the total depth of girder about 11½ ft.

"The bridge was built under the direction of G. W. Kittredge, chief engineer, and J. W. Pfau, engineer of construction. The design was prepared in the office of H. T. Welty, engineer of structures."

It is the largest plate girder bridge in the world, and is protected with Dixon's Red Lead-Graphite Primer for shop coat; Dixon's Silica-Graphite Paint, Dark Red for the first field coat, and Dixon's Black for the second field coat.



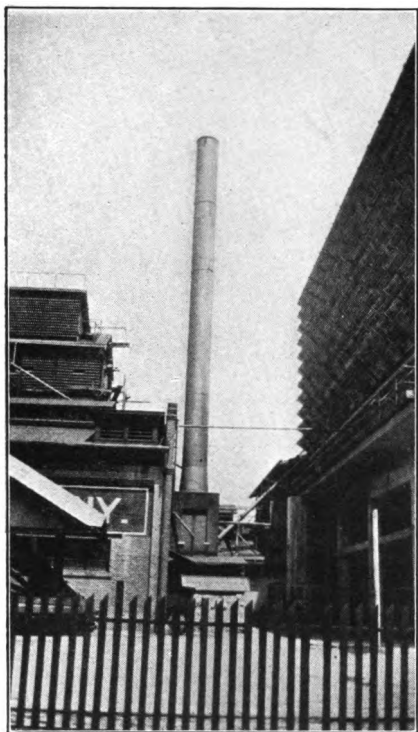
THE Southern Textile Exposition held in Greenville, South Carolina, the latter part of October, was the largest textile show ever held in the South. And it was so great a success that, before leaving for their homes, very many of the exhibitors made reservations for the next Exposition, which will be held in 1926.

Our Mr. J. P. Chase attended this meeting where we had a general display of Dixon Graphite Products, in all of which members of this convention are greatly interested.

Mr. Chase's report makes very interesting reading. It shows what an active enthusiastic salesman can do at such a convention, even when he is working single-handedly.

A reading of the report brings to the fore the fact that the Exposition was so important that it was attended by people in all walks of life.

Although our display was not as large as some others, Mr. Chase writes that he was proud of it and that the Dixon Line received lots of praise.



Pasadena Ice Company

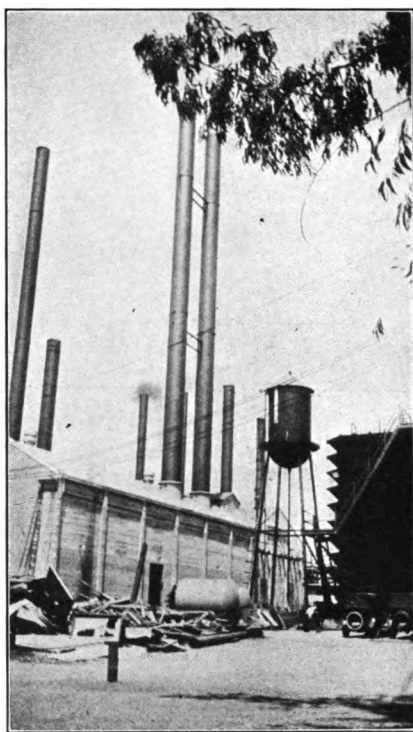
Pasadena, Cal.

THE following letter from the above is still additional verification of the value of Dixon's Silica-Graphite Paint for the protection of stacks.

Gentlemen:—"For the past four years we have been using your Silica-Graphite Paint on our stack and have obtained excellent results through its use. We unhesitatingly recommend it as a stack preservative."

Yours very truly,
PASADENA ICE COMPANY,
(Signed) S. BRADSHAW, Treasurer

For this class of work, we particularly recommend Dixon's Black Color, which is peculiarly adapted for such service. We also recommend, for best service, two coats for stacks previously painted, and three coats for a new stack.



Municipal Power Plant

Pasadena, Cal.

THE two large stacks shown in above photograph are 170 feet high and 6 feet in diameter. They, as well as the water tank, are painted with Dixon's Silica-Graphite Paint.

Dixon's Paint is widely used for the protection of stacks. Because of its long life, the cost per year of service is much less than with other paints.

The large item of any painting job is the labor, which remains fixed regardless of the quality of the paint and its efficiency. In the case of stack painting the cost of frequent repainting is increased because of the hazard, since workmen are in danger of burns or falls.

Decide now to investigate Dixon's Silica-Graphite Paint.

Design of the Florianopolis Bridge

(Continued from page 130)

into the cable without producing bending moments in the towers.

The net result of the change in design as applied to the Florianopolis Bridge is a reduction in cost (through actual saving in material), an increase in safety and longevity (through lower unit stresses), and an increase in efficiency (as measured by resistance to deflections).

Erection Considerations—Designs have been proposed, in the past, in which the cable (or chain) would be utilized as the top chord of an overhead bracing system. It is believed that the Florianopolis design is the first one in which the desired advantages are secured while retaining a stiffening truss at roadway level from tower to tower. The use of an overhead trussing system (departing from roadway level) necessitates separate wind-chords for lateral stiffening, and would incur a number of other disadvantages; the principal disadvantage would be the increased difficulty of erection. With the truss at roadway level, as in the Florianopolis design, erection can proceed exactly as in the conventional type of suspension structure, namely with the travelers advancing along the roadway deck.

Experts on bridge erection, to whom the two Florianopolis designs were submitted, agreed that the new design would not exceed the original design in cost of erection. In fact, on account of the smaller number of pieces to be handled, the opinion was expressed that the cost of erection should be reduced.

The only new difficulty in the erection arises from the absence of suspenders for adjustment in the middle half of the span. Adjustment of the remaining suspenders, however, suffices for the manipulation of the truss in order to permit connections to be made and in order to bring the truss to a final unstressed condition. Moreover, no difficulty has been experienced in the erection of suspension bridges in which no hanger adjustments were provided. With careful triangulation and fabrication, and with accurate knowledge of the elastic properties of the materials, provision for hanger adjustment can be dispensed with in modern suspension design.

Design of Towers—The Florianopolis Bridge will be the first American suspension bridge built with rocker towers. The only large bridges previously built with this feature are the Elizabeth Bridge at Budapest (1903) and the bridge over the Rhine at Cologne (1915).

The rocker type offers the most economical

and scientific design for suspension bridge towers. It eliminates the bending stresses from unbalanced cable pull, thereby yielding a saving in tower material, and it eliminates the difficulties of the necessary erection operation of pulling back the tops of the towers prior to stringing the cables or chains.

In the case of the Florianopolis Bridge, the change was made from fixed-base towers after comparative estimates showed a net saving of about 20 per cent in the cost of the towers in favor of the rocker type. There is a material reduction in the main sections by the elimination of the bending stresses.

The pedestal casting is finished to a plane top surface 27x45 in. The rocker casting is finished on its lower or bearing surface to a radius of 12 ft. The line of contact is 45 in. long. For security against creeping displacement, four screw-dowels of 3 in. diameter are provided. The rocking of the upper casting on the lower was tested in the shop with the dowels temporarily in place. The bottom face of the pedestal casting is cast with two full-length diagonal lugs which engage corresponding grooves in the masonry to prevent any possible sliding of the casting.

General Data—The bridge is being built by the Brazilian state of Santa Catharina to connect its island capital of Florianopolis with the mainland. The contractors are Byington & Sundstrom of São Paulo. The United States Steel Products Corp. has the subcontract for furnishing and erecting the steelwork. The substructure, including the foundations, piers, anchorages and abutments was completed several months ago by the principal contractors. The steelwork has been fabricated and shipped, and erection is in progress. It is expected that the bridge will be completed in the summer of 1925. Robinson & Steinman, of New York, are the consulting and designing engineers. L. N. Gross has been associated with them as consulting engineer on the construction.

Dixon's Red Lead-Graphite Primer for the priming coat and Dixon's Silica-Graphite Paint, Dark Red for the first field coat and Dixon's Natural color for the final coat, protect the entire tonnage of steel (approximately 6,000 tons) contained in this large bridge.

This conclusion was reached by the engineers, as they recalled that Dixon's Paint had given a service of 12 years without repainting on a railroad bridge owned by them and was in striking contrast to a competitor's paint used on another bridge of the same size, the structure having been painted three times during the same period and was in need of repainting at that time.

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